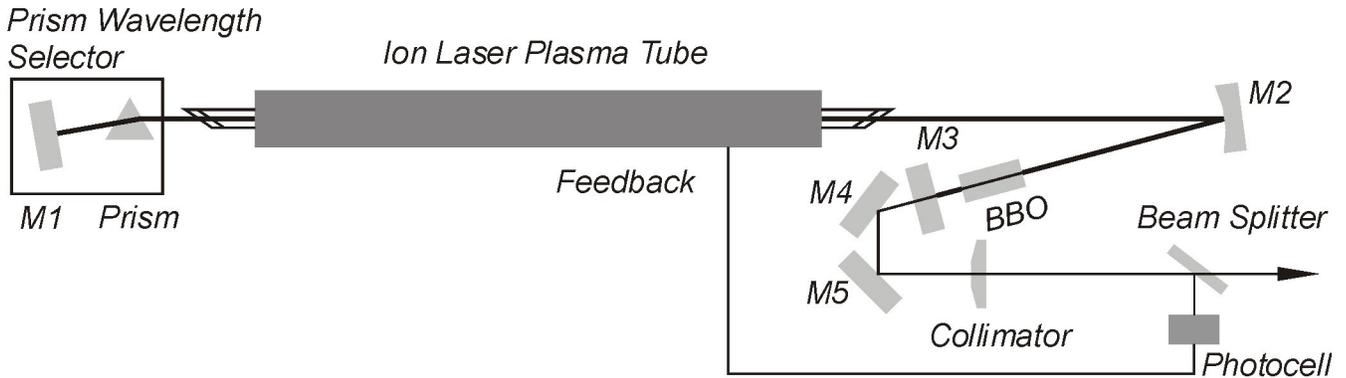




Lexel™ 85 SHG

Deep UV

Second Harmonic Generation



SHG CAVITY CONFIGURATION

Product Description:

The Lexel SHG is an intracavity frequency doubled ion laser system equipped with a nonlinear crystal, BBO (beta barium borate: BaB_2O_4), to produce SHG (second harmonic generation) deep UV output. The system configurations are based on our proven model 85 argon ion lasers which produce TEM₀₀ multi-line visible output at wavelengths from 457.9nm to 528.7nm.

The Lexel SHG uses the simplest, most stable three-mirror folded cavity design for frequency doubling, providing true hands off laser operation in the ultraviolet

Standard Features:

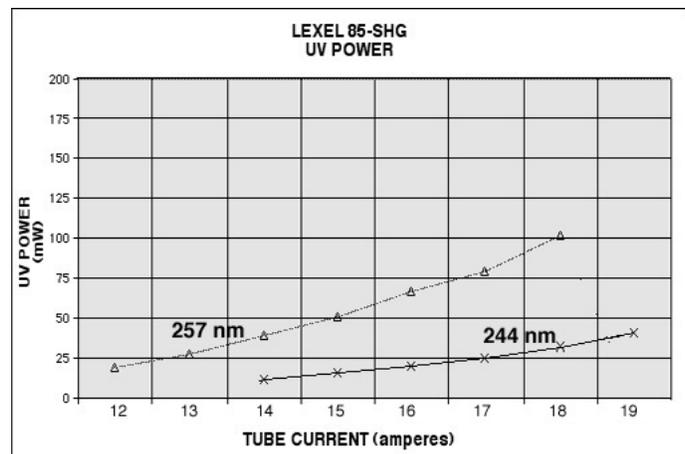
- Temperature controlled BBO Crystal
- Single phase power input
- UV light feedback regulation
- Nitrogen purge system
- High efficiency folded cavity
- 1 Watt argon ion output
- 2 year/2000 hour warranty

Applications:

- UV Raman spectroscopy
- Capillary electrophoresis
- Detection of defects on semiconductor wafers
- Semiconductor photolithographic process
- Optical fiber grating
- Interferometric optics testing

Options:

- Etalon for single frequency operation
- Crystal Automatic Translation (CAT)
- UV fiber delivery
- Spectrum Isolation for enhanced Raman SNR





Power and Wavelength Specifications

Visible Wavelength ¹	Output Power (mW)	SHG Wavelength ²	Output Power (mW)
Single line (mW)			
528.7nm	130		
514.5nm	400	257 nm	50
501.7nm	45		
496.5nm	100		
488.0nm	350	244 nm	25
476.5nm	100		
457.9nm	45	229 nm	INQUIRE

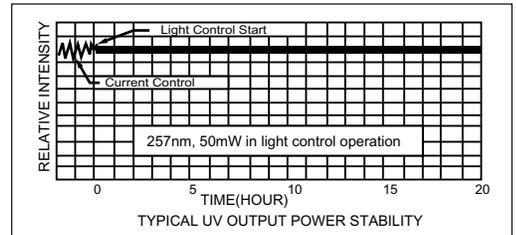
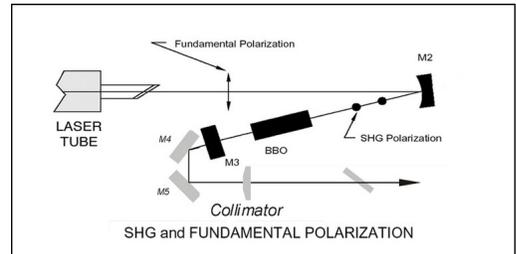
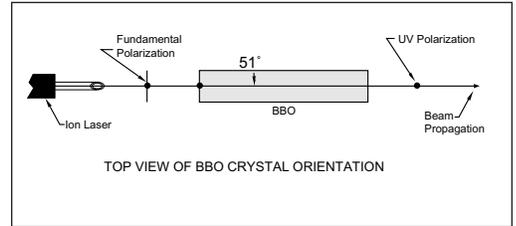
- Guaranteed power at specified UV wavelength. Visible wavelength guarantees require extra testing at extra cost. Some wavelengths require special optics.
- One SHG wavelength per BBO crystal.

Beam Parameters:	514	257
Mode	TEM ₀₀	TEM ₀₀
Beam Diameter ³	≤ 1.1 mm	1.0 x 1.2 mm
Beam Divergence (full angle)	≤ 0.7 mrad	.6 x .6 mrad
Beam Polarization	Horizontal	Vertical
Power Stability ⁴ (light control)	+/- 0.2%	+/- 1.0%

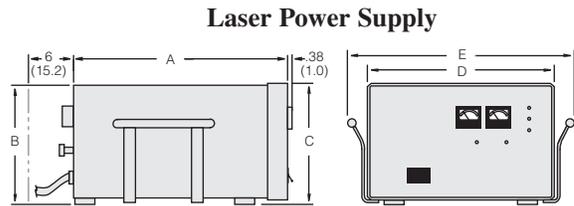
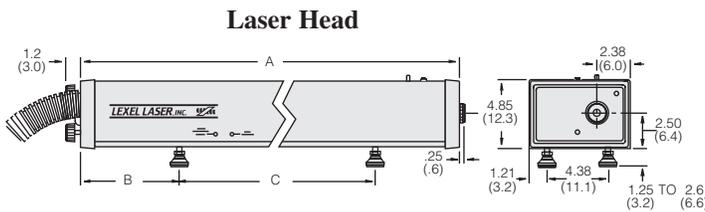
Warranty: 2 years/2000 hours

- Beam diameter measured at the front of output coupler.
- After one hour warm up.
- Electrical input: 220VAC, 1 Phase, 30A, 50/60Hz. Cooling water flow rate: 1.5 gpm (5.6 litre/min.) at 15-70 psi (1.0-4.9Kg/cm²). Incoming water temperature: 10-35°C (50-90°F). Non-condensing environment.
- N₂ flow rate: 1 liter/min.; 3-5 psi.

Cambridge Laser pursues a policy of continuous product improvement. Specifications are therefore subject to change.



DIMENSIONAL DRAWINGS



LASER HEAD	DIMENSIONS (inches/cm)			WEIGHTS (lbs/kg)	
	A	B	C	Uncrated	Crated
85 SHG	41.5 (105.4)	8.25 (21.0)	24.52 (62.3)	62 (28)	103 (47)

POWER SUPPLY	DIMENSIONS (inches/cm)					WEIGHTS (lbs/kg)	
	A	B	C	D	E	Uncrated	Crated
85 series	18.0 (45.7)	7.66 (19.5)	8.00 (20.3)	16.6 (42.2)	19.6 (49.8)	82 (37)	104 (47)



by Cambridge Lasers Laboratories, Inc.

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