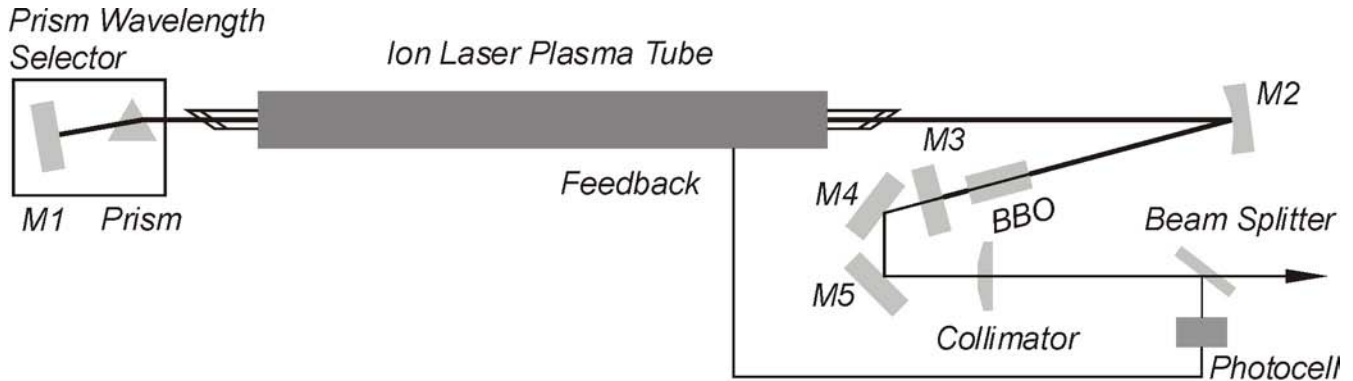


Lexel™ 95 SHG

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 95 ion lasers which produce TEM₀₀ multi-line visible output at argon wavelengths from 457.9 nm to 528.7nm, and krypton from 568.2 nm to 676.4 nm.

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

Standard Features:

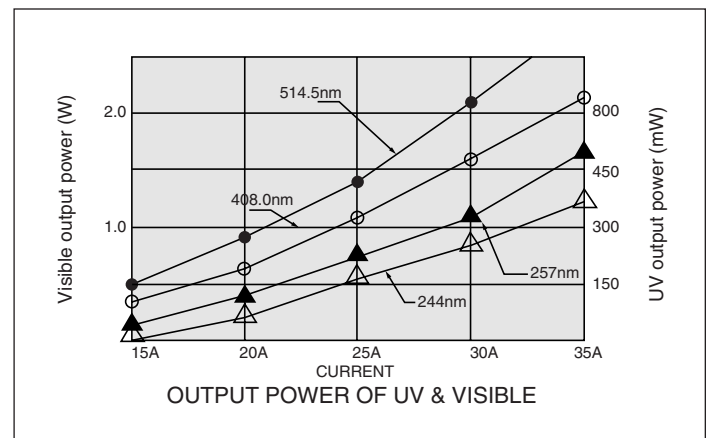
- Temperature controlled BBO Crystal
- High efficiency folded cavity
- Astigmatic compensation for clean focus
- Nitrogen purge system
- UV light feedback regulation
- 5 Watt argon ion output
- 1.25 Watt krypton ion output
- 2 year/2000 hour warranty

Options:

- Resonator Stabilization for fast warm-up
- UV/Visible Fast User Switching Enabled
- Etalon for single frequency operation
- Spectrum Isolation for enhanced Raman SNR
- Crystal Automatic Translation
- Optics for extended UV (229nm-284nm)

Applications:

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





Power and Wavelength Specifications

Visible Wavelength ¹	Output Power (mW)	SHG Wavelength ²	Output Power (mW)
Single line krypton (mW)			
568.2nm	225	284 nm	10
Single line argon (mW)			
528.7nm	420	264 nm	10
514.5nm	2400	257 nm	200
501.7nm	480	250 nm	10
496.5nm	750	248 nm	30
488.0nm	1800	244 nm	100
476.5nm	720	238 nm	10
457.9nm	420	229 nm	10

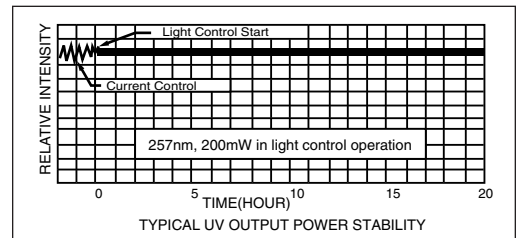
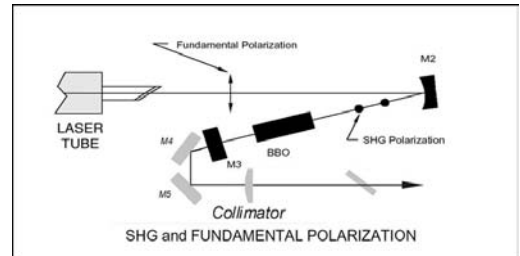
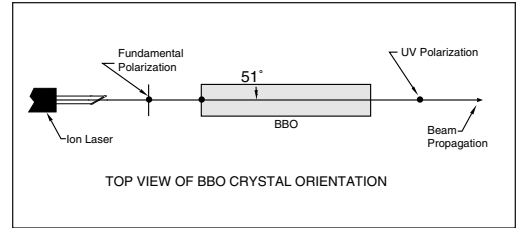
- Guaranteed power at specified UV wavelength. Visible wavelength guarantees require extra testing at extra cost. Some wavelengths require special optics.
- One SHG wavelength per BBO crystal.

Beam Parameters:	514	257
Mode	TEM ₀₀	TEM ₀₀
Beam Diameter ³	≤ 1.5mm	.6 x .7mm
Beam Divergence (full angle)	≤ 0.6 mrad	.7 x .9 mrad
Beam Polarization	Horizontal	Vertical
Power Stability ⁴ (light control)	+/- 0.2%	+/- 1.0%

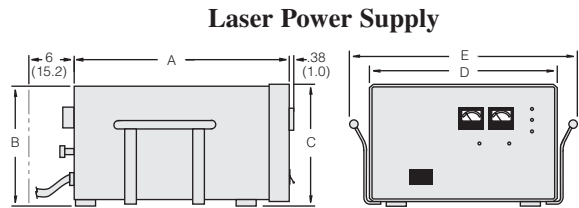
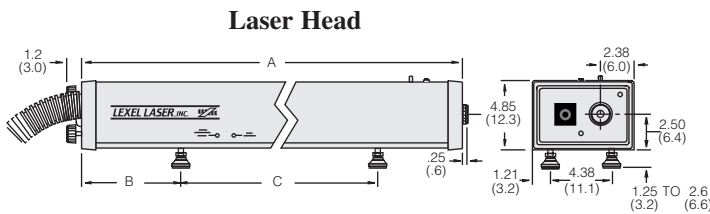
Warranty: 2 years/2000 hours

- Beam diameter measured at the front of output coupler.
- After 15 minute warm up under temperature controlled laboratory conditions. Beam pointing specifications upon request.
Electrical input: 208VAC, 3 Phase, 50A, 50/60Hz. Cooling waterflow rate: 2.2gpm (8.5 litre/min.) at 20-70 psi (1.4-4.9Kg/cm²). Incoming water temperature: 10-35°C (50-90°F). Non-condensing environment.
- Scientific Grade (>99.999%) 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 HEADS	DIMENSIONS (inches/cm)			WEIGHTS (lbs/kg)	
	A	B	C	Uncrated	Crated
95 SHG	53.5 (135.9)	13.20 (33.5)	33.93 (86.2)	85 (39)	126 (57)

POWER SUPPLY	DIMENSIONS (inches/cm)					WEIGHTS (lbs/kg)	
	A	B	C	D	E	Uncrated	Crated
95 series	19.3 (48.9)	10.4 (26.5)	10.8 (27.4)	16.6 (42.2)	20.1 (51.1)	125 (57)	144 (65)



by Cambridge Lasers Laboratories, Inc.

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