



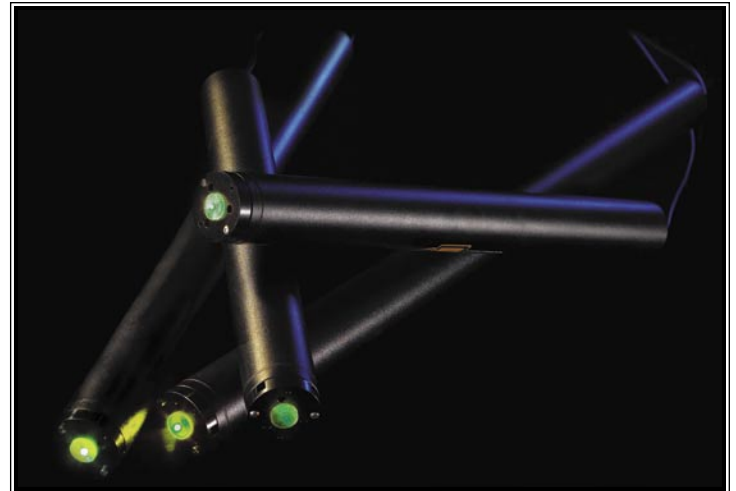
543nm (GREEN) LASERS

Research Electro-Optics, Inc. (REO) has been a leader in the field of high performance and high reliability Helium-Neon lasers for over twenty years. The vast majority of our laser tubes manufactured over the years have been incorporated into medical, scientific and critical manufacturing instruments. This experience, combined with our on-staff technical expertise and flexible manufacturing structure, makes REO uniquely suited to supplying Helium-Neon lasers for performance critical applications.

REO's primary strength in the Helium-Neon laser market is our in-house optical fabrication and coating capability. It is widely acknowledged that mirror performance is one of the most critical factors in maintaining consistently long laser life. Manufacturing these components in-house is the best way to develop insight into the technical factors affecting mirror performance and to ensure consistent mirror quality. Our technical insight into optimizing mirror performance provides our laser products with competitive advantages in terms of output power and laser lifetimes. Utilizing enhanced designs and superior components, these lasers deliver unsurpassed operational stability and longer laser lifetimes.

REO's historical emphasis has been on meeting the needs of the OEM customer. Our long history with laser manufacturing, our in-house control of critical components, and our advanced quality system endow REO with all of the desired attributes of a critical OEM vendor. REO's focus on the high performance segment of the Helium-Neon market has enabled us to maintain a flexible, performance-oriented manufacturing structure that can be easily adapted to meet custom requirements when an OEM application demands it.

REO reinforces our quality statement by offering a one-year warranty on all Helium-Neon lasers.



Features:

- Longer Lifetimes
- Higher Output Powers
- Power Stability
- Thermal Stability
- Beam Pointing Stability

Applications:

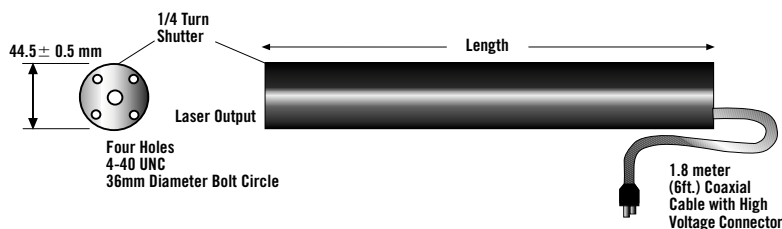
- Particle Measurement
- DNA Micro Array Analysis
- Confocal Microscopy
- Scientific Research

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Model Number	Mode Structure	Minimum Output Power (mW)	Beam Diameter (mm)	Beam Divergence (mrad)	Polarization Ratio	Longitudinal Mode Spacing (MHz)	CDRH Class	Recommended Power Supply	Length (mm) ±1mm
LHGR-0050	TEM ₀₀	0.5	0.64	1.07	RANDOM	566	IIIa	LPS	330.2
LHGP-0051	TEM ₀₀	0.5	0.72	0.96	500:1	416	IIIa	LPS	425.5
LHGR-0100	TEM ₀₀	1.0	0.70	0.98	RANDOM	441	IIIa	LPS	425.5
LHGP-0101	TEM ₀₀	1.0	0.83	0.84	500:1	303	IIIa	LPS-H1	533.4
LHGR-0200	TEM ₀₀	2.0	0.83	0.84	RANDOM	303	IIIa	LPS-H1	533.4
LHGR-0050M	MULTIMODE	0.5	~1.62	~4.02	RANDOM	566	IIIa	LPS	330.2
LHGR-0100M	MULTIMODE	1.0	~1.59	~3.35	RANDOM	441	IIIa	LPS	425.5
LHGR-0200M	MULTIMODE	2.0	~2.58	~4.68	RANDOM	303	IIIa	LPS	533.4

REO's expertise in fabrication of low loss optics and contamination-free laser manufacturing provides a critical advantage in providing the highest power, longest life green Helium-Neon lasers commercially available. REO was founded on our history of producing the lowest loss, highest performance laser mirrors in the world. These mirrors are the cornerstone for the manufacture of our high performance, long-lived green Helium-Neon lasers due to the extremely low gain of the 543nm neon laser transition. Optical losses in the laser cavity are kept to an absolute minimum to maximize output power, and laser mirror degradation is minimized to maintain stable output power over the life of the laser. Cathode preparation and gas fill are also optimized to prevent premature laser failure due to cathode sputtering.

	Operating	Non-Operating
TEMPERATURE (C°)	-20° TO +70°	-40° TO +80°
ALTITUDE (meters)	0 TO 3,000	0 TO 6,000
HUMIDITY	≤ 80%	≤ 95%
SHOCK	15 g for 11 msec	
STARTING VOLTAGE	< 10 kVDC	
BEAM DRIFT AFTER 20 MINUTE WARM UP	< 0.2 mrad	
LONG TERM BEAM DRIFT	< 0.05 mrad	
NOISE (30Hz - 10MHz)	< 1% rms	



Research Electro-Optics, Inc.

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