



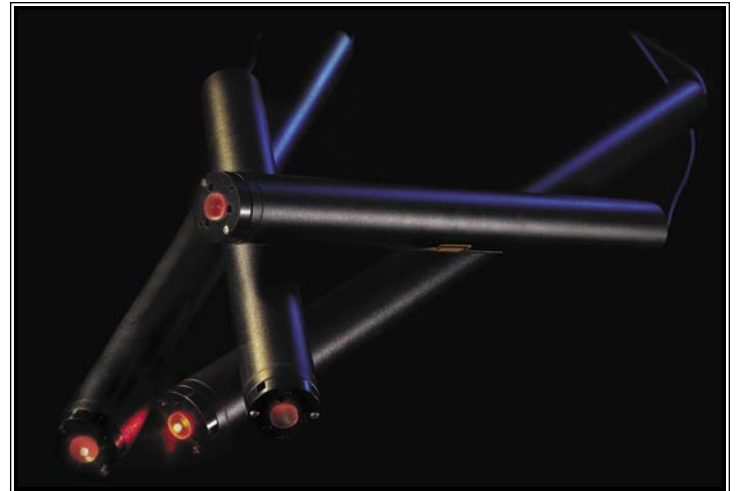
## 633nm (RED) LASERS

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:

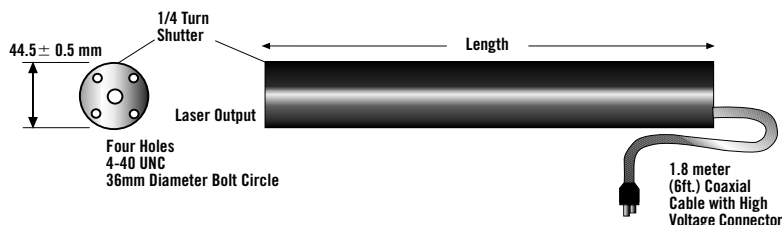
- Alignment
- Precision Metrology
- Biomedical Instrumentation
- Basic Research
- Wavelength References

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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
LHRR-0200	TEM <sub>00</sub>	2.0	0.81	1.00	RANDOM	566	IIIa	LPS	330.2
LHRP-0201	TEM <sub>00</sub>	2.0	0.81	1.00	500:1	566	IIIa	LPS	330.2
LHRR-0500	TEM <sub>00</sub>	5.0	0.80	1.01	RANDOM	441	IIIb	LPS	425.5
LHRP-0501	TEM <sub>00</sub>	5.0	0.80	1.01	500:1	441	IIIb	LPS	425.5
LHRR-1200	TEM <sub>00</sub>	12.0	0.88	0.92	RANDOM	316	IIIb	LPS-H1	533.4
LHRP-1201	TEM <sub>00</sub>	12.0	0.88	0.92	500:1	316	IIIb	LPS-H1	533.4
LHRR-1700	TEM <sub>00</sub>	17.0	0.98	0.82	RANDOM	252	IIIb	LPS-H2	660.4
LHRP-1701	TEM <sub>00</sub>	17.0	0.98	0.82	500:1	252	IIIb	LPS-H2	660.4
LHRR-0500M	MULTIMODE	5.0	~2.75	~7.23	RANDOM	566	IIIb	LPS	330.2
LHRR-0800M	MULTIMODE	8.0	~1.90	~3.98	RANDOM	441	IIIb	LPS	425.5
LHRR-1400M	MULTIMODE	14.0	~2.91	~5.36	RANDOM	316	IIIb	LPS-H1	533.4
LHRR-1800M	MULTIMODE	18.0	~1.98	~5.92	RANDOM	252	IIIb	LPS-H1	660.4

The performance of REO's red Helium-Neon lasers has been refined through more than twenty years of manufacturing and continuous improvement. Improvements in cathode design, mechanical structure and mirror quality enable REO to produce red lasers with excellent mode purity, unequalled lifetime and exceptional operational stability.

	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	



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