REO Introduces Yellow HeNe Lasers for Fluorescence Excitation

REO, a leading manufacturer of high volume precision optical and laser solutions, has released a 594 nm (yellow) helium neon (HeNe) laser suitable for cost-sensitive bioinstrumentation and fluorescence excitation applications. The new laser features a perfectly circular beam profile and superior beam quality (M^2<1.05) leading to minimized loss in single mode fiber coupling. It also offers high polarization purity (>500:1), with a guaranteed minimum output power of 2 mW. Additionally, these yellow lasers provide low noise output (<1% over the range 30 Hz to 10 MHz) and superior beam stability; long term beam drift is under 0.05 millirad. They are packaged in an industry standard cylindrical head format (1.75 in/ 44.5 mm diameter), and the front plate supports a variety of fiber coupling options. REO offers a choice of OEM or CDRH-compliant power supplies, including time delay, key switch and interlock.

The gain in HeNe is weak at 594 nm, so achieving stable laser output at this wavelength requires high quality cavity mirrors with very low scatter and precision coatings capable of rejecting nearby laser lines. These must then be assembled on to laser tubes in a low contamination environment. REO is a vertically integrated manufacturer, producing its own laser tubes, mirror substrates and coatings all in house. The company routinely employs techniques such as superpolishing and ion beam sputtering (IBS) deposition in order to produce mirrors with extremely high reflectance and low scatter, together with superior environmental stability and mechanical durability characteristics.

These HeNe lasers meet a growing demand for yellow wavelength excitation in fluorescence-based bioinstrumentation applications such as confocal microscopy, flow cytometry, and drug discovery, as well as emerging applications in proteomics and genomics. The yellow output is ideal for use with fluorophores such as Texas Red and Alexa Fluor 594, as well as APC and its tandems. These applications will all benefit from the yellow HeNe’s perfectly round beam profile and stable output beam characteristics, eliminating the spatial filtering and collimation optics often required with other laser types.

REO

1-720-562-3213; www.reoinc.com [1]

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