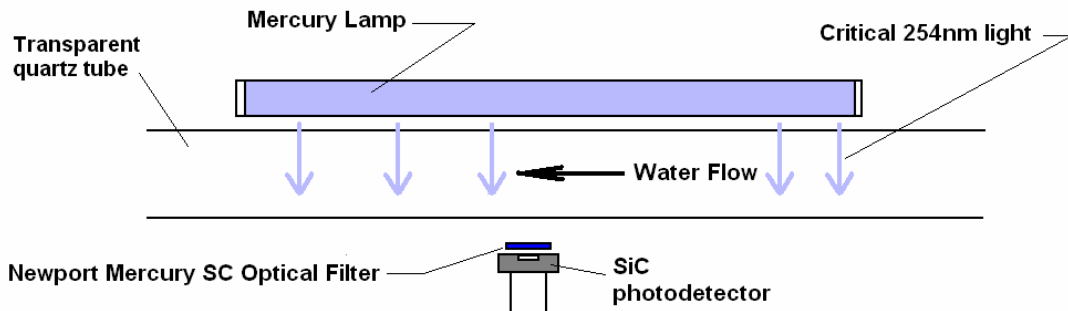




IMPROVED UV DISINFECTION BY A LOW COST OPTICAL FILTER

Photonics & Analytical Marketing announce the UK launch of Newport's patent-pending Mercury-SC® optical filter developed to address the world's problem of providing clean, pure water in poor, underdeveloped nations. With the goal of eradicating water-borne illnesses and disease (such as cholera and dysentery), the new *Mercury SC®* optical filters are employed for low-cost point-of-use ultraviolet-light water disinfection applications. This novel filter allows for the precise monitoring of mercury arc-lamp ultraviolet light emissions at a small fraction of the cost of current technologies. Tuned to optically pass only the critical anti-microbial ultraviolet wavelengths (254nm), this new filter is used along with an inexpensive silicon-carbon photo detector to accurately monitor the purifying effectiveness of mercury lamps in real-time. Typical UV disinfection mercury lamps have limited lifetimes; their critical disinfection emissions deteriorate even though their ineffective visible emissions remain (bright-appearing UV bulbs often lack the crucial 254nm antimicrobial light). The new *Newport Mercury SC®* filter optically rejects this background visible light allowing the critical 254nm energy to be accurately monitored by the silicon-carbide detector. Not only is safety assured (the filter-detector unit warns when water is no longer adequately disinfected), but a major cost-savings is also achieved by eliminating the need to prematurely replace mercury lamps.

Designed to achieve optimal spectral performance and field-longevity at the lowest possible cost, this new optical filter is ideal for economical point-of-use UV water purifiers employed in countries where water safety is a problem. Standard 254nm optical filters cannot be employed for such applications due to their very high cost, large sizes and poor field-longevity. Newport's *Mercury SC®* optical filter is offered at less than 1/50th the cost and is produced on a single, thin silica substrate (< 1mm). Such unique filters have ultimate durability, able to withstand the harshest environments with no changes in their performance. Available in basically any size (from 50mm square to 1.5mm square), such unique filters make possible for the first time, a true cost-effective means to improve the safety of the world's water supplies.



Typical point-of-use UV water disinfection system: The new Mercury SC filter lets users know when the microbe-killing effectiveness of the mercury lamp is insufficient

TYPICAL PERFORMANCE SPECIFICATIONS

Critical mercury lamp germicidal emission wavelength range: 200nm – 300nm (peaks at 254nm)

Newport Mercury SC® transmission at 254nm > 60%

Optical rejection (for wavelengths >300nm) less than 1% AVG for use with SiC photodetectors

Thickness: 1mm or less

Maximum Size: Up to 50mm square

Minimum Size: 1.5mm square

Note: Other shapes and sizes are readily available

Field Life: Exceeds the lifetime of the UV water purifier itself

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