



BioProtector™ Air Sterilization Systems

BioProtector systems use very high intensity, Advanced UV System (AUVS) technology to rapidly and effectively destroy biological organisms in air. The UV intensity produced by the BioProtector can be more than 100 times that produced by conventional low power UV germicidal systems. As a result, the technology is uniquely effective. The sterilization effects obtained are significantly greater than those achievable with conventional UV systems.

The BioProtector is integrated into an HVAC air duct system or manufacturing air supply system to kill airborne microorganisms. The AUVS technology provides a means of increasing the UV intensity produced by UV lamps by a large factor to achieve very high sterilization levels in air. Applications include sterilizing air in pharmaceutical, medical and food manufacturing facilities to prevent product contamination as well as providing protection against airborne organisms in hospital surgery, critical care and isolation rooms.

The technology can also be used to protect personnel in buildings and shelters against biological threats such as anthrax and smallpox and to kill other organisms such as SARS, bird flu virus, ordinary cold and flu viruses, etc. The airflow pressure drop created by the BioProtector and the operating costs for the systems are low.

The technology is very effective for destroying endospores that are highly resistant to UV. For example, UV resistant endospore test organisms such as *Bacillus subtilis* are destroyed to greater than the 6-log level (>1 million times reduction). Vegetative microorganisms and viruses are significantly less resistant to UV than these test organisms and are destroyed to an even higher degree.

The AUVS technology is based on an innovative UV enhancement or “photon multiplication” technology that permits the use of relatively low power UV sources to achieve high microbial kill levels. This technology permits the creation of very intense, highly uniform UV doses without increasing the input power. The approach is analogous to that of a microwave or laser cavity. High amplification factors can be obtained over the intensity that would be present without the reflective cavity. The UV enhancement technology significantly reduces the power, size and cost of the system while increasing its performance and reliability and decreasing maintenance costs.

The AUVS technology can be readily scaled from small units designed to treat a few hundred cfm of airflow or less, to large units for flow rates of 100,000 cfm or more. The smallest unit built to date, is designed to treat 300 cfm. The largest units built to date, which treat 60,000 cfm, are installed at the Pentagon in Washington, DC.

BioProtector™

The Ultimate in biological protection for buildings, rooms, hospitals, shelters, etc ...



BP 246i

- Effective against all types of microorganisms
- 6 logs kill (1 million x reduction) of UV resistant endospores, >> 9 logs kill of typical viruses and vegetative bacteria
- 100 to > 1 million times more effective than standard HEPA filter
- Very low pressure drop
- Reliable 24/7 operation with low power and operating cost
- Proprietary system design and intense UV technology
- 16,000 hour service interval for UV source
- Available in a wide selection of sizes

Sample Performance Parameters and Specifications

Product / Model Number	BP 114i-A	BP 246i-A	BP 458i-A
Nominal Air Flow (CFM)	250	3,500	10,000
Typical Air Flow Range (CFM)	250 - 750	2,000 - 7,000	7,000 - 20,000
Width (Ft.)	1	2	4
Height (Ft.)	1	4	5
Length (Ft.)	4	6	8
Number of Lamps*	6	8	20
Electrical Power (Watts)*	780	2,800	8,000
Lamp Life (Hours)	16,000	16,000	16,000
Pressure Drop (iwg)*	0.4	0.7	0.6

**Nominal Flow Rate*



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