

Bio Protector Air Sterilization Systems BP114i

Bio Protector 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 Bio Protectors is as much as 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 Bio Protector 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 Bio Protector 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.

AUVS Air Sterilization Technology:

- Effective against all types of microorganisms
- 6 log kill (1 million x reduction) of UV resistant endospores, >9 log kill of typical viruses and vegetative bacteria
- 100 to > 1 million times more effective than standard HEPA filters
- 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.