AEROBIOTIX™
BETTER AIR FOR HEALTHCARE

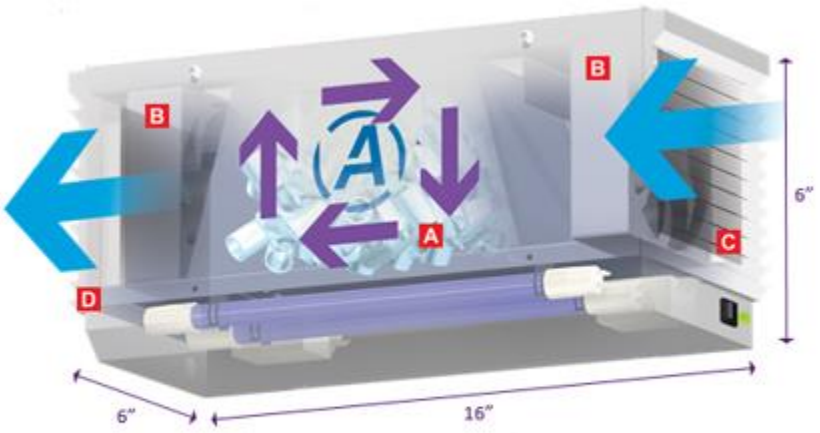
Technical Memo: The GermZone® Upper-room germicidal system and the COVID-19 Pandemic.

What is GermZone?

The GermZone is a compact, self-powered, wall-mounted room air germicidal system. It utilizes C-band ultraviolet germicidal radiation (UVGI) to decontaminate room air from viruses, bacteria, and spores. Upper-room UVGI systems have been used for decades in healthcare settings to reduce airborne pathogens and are supported by a large body of literature.

How does it work?

The GermZone is a 6 x 6 18" steel enclosure which is mounted on the upper wall of a room and is plugged into a standard electrical socket. It contains two internal fans which draw in room air, expose that air to ultraviolet germicidal radiation, and recirculate it back into the environment.



GermZone unit: A. Photolytic Chamber, B. Fans, C. Air inflow, D. Air Outflow

Its key biocidal technology is a solid-state germicidal irradiation system which utilizes C band ultraviolet light (UVC) at a 254 nm wavelength diffused into a solid media which is gas and radiation permeable. The media design allows for maximal airflow and surface area. While organisms are slowed or trapped in the solid media, they are inactivated by the internal UVC dosage. This has the effect of increasing the inactivation efficiency over prior UV technologies.

What are the key features and benefits of the GermZone?

1. The ultraviolet lamps are completely sealed within the unit, so there is no risk of exposure of room occupants to UV radiation, which can be hazardous. The unit has been independently tested for UV emissions under international standards. The device also does not emit ozone.

3. The device contains a unique photolytic chamber, with randomly oriented transmission elements which is a patented Aerobiotix technology, to improve the efficacy of ultraviolet decontamination. This system is used in critical hospital applications on a global basis.

2. Unlike prior devices which depend on passive air currents to expose airborne pathogens, the GermZone contains internal fans into the ultraviolet chamber.

How is the unit installed?

The unit can be directly anchored to drywall or masonry with appropriate fasteners. Alternatively, the unit can be placed upon an upper shelf, without permanent installation.

Are there any maintenance items which need to be replaced?

The GermZone is designed for continuous usage with minimal maintenance. The units contain filter pads under the inflow and outflow grids which need to be replaced when soiled with dirt or lint. The ultraviolet lamps are good for about 10,000 hours. There is a green indicator lamp on the unit which will fail to illuminate when a lamp needs to be replaced.

Is GermZone effective against COVID?

Recent studies have shown that an asymptomatic COVID carrier can have up to 100,000,000 copies of the virus per mL in their mouth and expel over 16 infectious doses of virus per minute while talking and active.

Fortunately, Coronavirus is highly susceptible to germicidal UV irradiation; in fact, it is three times more susceptible to UV than common influenza virus. GermZone ultraviolet irradiation delivers an ultraviolet dosage of in excess of 5000 µJ/cm^2. This is well in above the published 90% Coronavirus reduction dosage of 611 µJ/cm^2.

Aerobiotix Photolytic Technology

Aerobiotix is the global leader in medical and commercial ultraviolet air disinfection systems. Our technology is based on advanced photolysis techniques which improve the killing efficiency of UV when applied to air disinfection. Our systems are trusted by major medical centers globally.