

Fighting Infectious Diseases with UVGI Disinfection of HVAC Systems

Airborne Infectious Diseases

Infectious diseases such as Ebola, SARS, and MRSA, are a growing concern for medical facilities. According to the [CDC](#), UVGI (Ultraviolet Germicidal Irradiation) is an effective tool in reducing the transmission of airborne bacterial and viral infections in hospitals, military housing, and classrooms as a supplemental air cleaning measure along with HEPA filters.



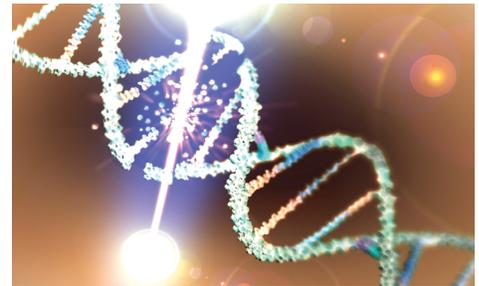
Microbes Have No Defense

These lights are effective because microbes have no defense against C-band ultraviolet light (UV-C) which is not present in daylight (it's filtered out by the atmosphere). UV-C light sterilizes germs by penetrating their cell walls and scrambling the DNA inside leaving them incapable of reproduction.

Sterilize Airborne Pathogens with UVGI

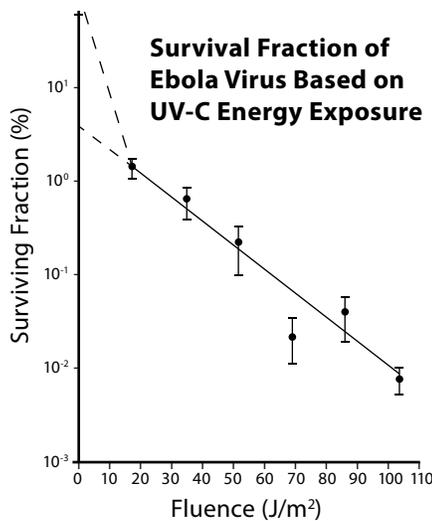
An Ultraviolet Germicidal Irradiation or UVGI system (UV-C lights installed inside a building's air handler and/or ducts) offers a proven and cost-effective method of sterilizing airborne pathogens. UVGI systems can also often pay for themselves by improving air system efficiency and reducing the costs of maintenance. They also generally improve indoor air quality for building occupants.

EBOLA
SARS
MRSA
SWINE FLU
ANTHRAX
SMALLPOX
TUBERCULOSIS
CHICKEN POX
MEASLES



UV-C light sterilizes microbes by scrambling their DNA

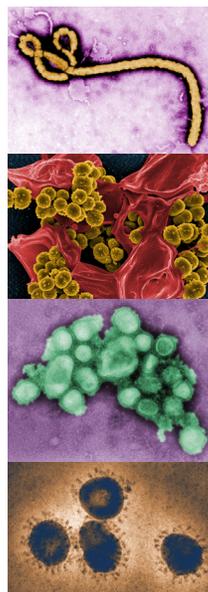
According to Peter Gordon a leader of the [International Ultraviolet Association](#) Health Care Working Group, "Ultraviolet-C technology is an excellent germicidal agent in health care settings. It is a great agent for protecting patients and health care workers from a variety of pathogens, including the Ebola virus."



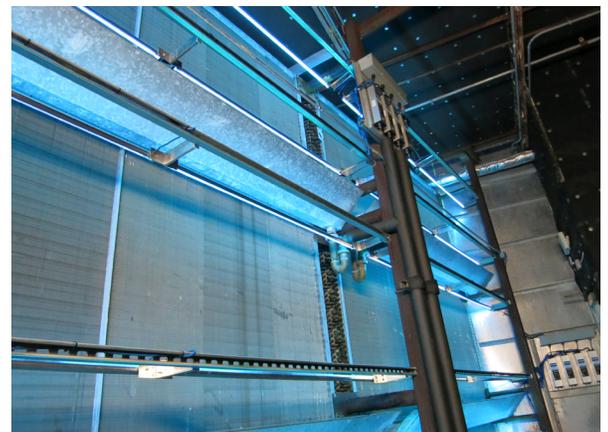
Source: Arch Virol. 2011 Mar;156(3):489-94. doi: 10.1007/s00705-010-0847-1. Epub 2010 Nov 23.

UV-C Germicidal Applications

The germicidal properties of UV-C light have been known for over a century. UVGI has been used for photo-therapy, in the food industry, and in water purification. In recent years there has been a tremendous growth in the number of UV-C lights installed in HVAC systems of all sizes as a means of mold disinfection and to provide healthier indoor air quality for occupants.



A large Fresh-Aire UV surface UVGI installation



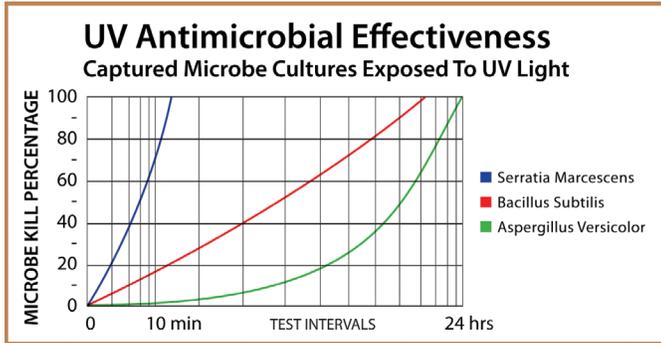
Proven Effective

In the past UV light has been shown to be effective against influenza strains (including 'bird' flu and H1N1 'swine' flu) as well as SARS, legionella, TB, pneumonia, German measles, and many other airborne infectious diseases.



ASHRAE Recommendations

ASHRAE now recommends the use of UV-C lights within HVAC systems as a supplemental technology to reduce airborne infectious diseases. A single pass through the air system can sterilize a substantial fraction of airborne contaminants and a typical air handler will change the air four to five times an hour significantly reducing the risk of airborne microbial infection. For more information refer to www.ashrae.org ASHRAE Position Document on Airborne Infectious Diseases and www.epa.gov Swine H1NI Influenza A: Transmission of Viruses in Indoor Air: HVAC System Protection Options.

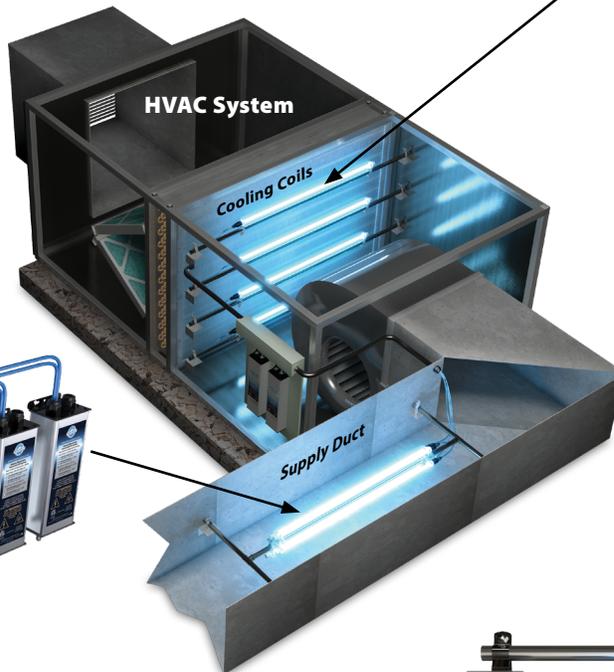
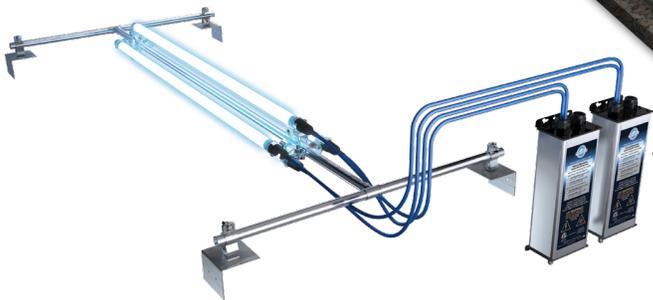


The Fresh-Aire UV Commercial Series of UV-C light disinfection products includes a variety of devices that will reduce the risk of airborne transmission of infectious diseases through a medical facility's HVAC system.



Airborne Duct System (ADS)

An array of high-output UVC lamps kills airborne pathogens as they pass through the duct. 32" or 46" lamps, axial or grid configuration.

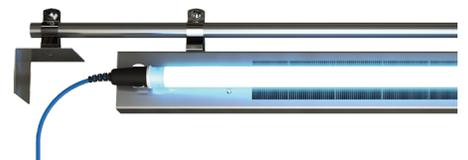


Standard "L" System, Tubular Rack System, APCO Rack System

For surface disinfection at the coils. 32", 46", 60" lamps and a variety of mounting hardware options.

APCO Cells

Activated carbon photocatalytic (PCO) cells remove odor-causing and potentially toxic VOC contaminants from the air.



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