



Updated July 15<sup>th</sup>, 2020

RE: Fresh-Aire UV update on the effectiveness of UV disinfection systems against SARS-CoV-2 (novel coronavirus)

As one of the leading global providers of ultraviolet disinfection systems, Fresh-Aire UV believes it is important to be as transparent as possible and to explain the fundamentals and variables that influence the inactivation of coronavirus and other pathogens with UVC germicidal technologies.

Fresh-Aire UV systems are tested and validated against bacteria, viruses, mold & fungus. Fresh-Aire UV systems have been tested and achieve up to a 99.999% reduction on microorganisms. There are a number of factors that need to be addressed in order to determine efficiency, these include but not limited to, the application, such as surface or air disinfection, air velocity and temperature, recirculation rates, and dwell time, as well as the specific biological target. Fresh-Aire UV systems are installed in the HVAC unit and/or ductwork and are designed to disinfect surfaces and the air as it circulates through the ventilation system and reintroduced back into the living or working space. UV dosage can be measured in several ways including millijoules per centimetres<sup>2</sup> (mJ/cm<sup>2</sup>).

Every microorganism requires a specific UVC dosage for inactivation including the novel coronavirus. UV disinfection has been employed for decades in water treatment; these microwatt values have been used for reference to gauge UVC efficiency against a large cross-section of microorganisms. While Fresh-Aire UV systems have not been tested against SARS-CoV-2 the virus that causes COVID-19, Fresh-Aire UV systems have been tested and proven effective against pathogens that require even greater UVC dosages for inactivation.

New data shows UV is very effective for inactivating SARS-CoV-2

UVC germicidal light at the 254 nm wavelength is tested & proven effective for inactivation of microorganism. According to ASHRAE (The American Society of Heating, Refrigerating and Air-Conditioning Engineers); Ultraviolet energy inactivates viral, bacterial, and fungal organisms so they are unable to replicate and potentially cause disease. The question remains, what is that lethal dosage for SARS-CoV-2? Studies have already defined the dosage of SARS-CoV-1 (2004). New data is being released, giving us a better understanding of UV dosage requirements to inactivate SARS-CoV-2. As was presumed by the scientific community, the SARS-CoV-2 virus is very sensitive to UVC energy requiring a dosage of 3.7 mJ/cm<sup>2</sup> (millijoules per cm<sup>2</sup>) for 99.9% inactivation.

UV disinfection systems for room, surface & HVAC are an ideal proactive measure to complement filtration. Microorganisms, particularly viruses, are so small, filters may not be effective. UVC systems have also been shown to reduce problematic molds and pathogens that are found within the HVAC equipment and drain pan that would otherwise be introduced and distributed throughout the envelope of the building.

For additional information visit:

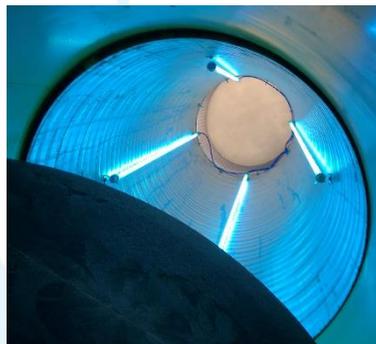
*For more information on Fresh-Aire UV systems or to discuss your specific application, please contact 1-800-741-1195 or email [sales@FreshAirUV.com](mailto:sales@FreshAirUV.com).*



Air Handler Disinfection



AHU / RTU & Airstream Disinfection



Make-Up Air & Exhaust Disinfection



Room / Surface Disinfection (unoccupied)

*Fresh-Aire UV systems are installed within the HVAC system and are not intended to diagnose, treat, prevent or cure any disease.  
The systems have not been tested on coronavirus and is not a medical device.*

For additional information:

[www.ashrae.org/technical-resources/resources](http://www.ashrae.org/technical-resources/resources)  
[www.cdc.gov/coronavirus/2019-ncov/index.html](http://www.cdc.gov/coronavirus/2019-ncov/index.html)