

PATRIOT IAQ

March 13, 2020

RE: Coronavirus: Germicidal UV efficiency against viruses, bacteria & mold

Patriot IAQ has been receiving inquiries regarding the effectiveness of UV disinfection systems against COVID-19 (coronavirus). We believe the best approach is to be as transparent as possible and to explain the fundamentals and variables that play a factor in inactivating coronavirus and other pathogens with UVC germicidal technologies.

*Patriot IAQ systems are tested and validated against bacteria, viruses, mold & fungus. Patriot IAQ systems have been tested and achieve up to a *99.999996% 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. Patriot IAQ systems are installed in the HVAC unit and/or ductwork and are designed to disinfect the air as it circulates through the ventilation system. UV dosage for log reduction is measured in several ways including microwatts per second/centimetres² ($\mu\text{Ws}/\text{cm}^2$).*

Every microorganism, including coronavirus, requires a specific UVC dosage for inactivation. 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 *Patriot IAQ* systems have not been specifically tested against coronavirus, they have been tested and proven effective against similar pathogens, some that require an even greater dosage for inactivation than coronavirus.

UV disinfection systems for HVAC are an ideal proactive measure to complement filtration. Microorganisms, particularly viruses, are so small that filters are mostly ineffective. UV systems have also been shown to reduce problematic molds and pathogens that are found within the HVAC system and drain pan that would otherwise be introduced and distributed throughout the envelope of the building.

*Tested by Antimicrobial Test Laboratories (ATL)
99.999996% reduction of MS2 bacteriophage.
Laboratory test results available upon request.

For additional information visit:

www.ashrae.org/technical-resources/resources

www.cdc.gov/coronavirus/2019-ncov/index.html

Please contact Patriot IAQ to discuss your specific application: sales@patriotiaq.com.



Patriot Carbon
whole-house air purifier