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## **Onboard Air UV Light Disinfection\* Technology Frequently Asked Questions**

### **1. What is Onboard Air UV light disinfection technology by Acuity Brands?**

EvōIAIR UV™ with UV Angel Clean Air™ Technology delivers a modern approach to UV germicidal upper air room treatment. Engineered with advanced UVC based pathogen control technology powered by UV Angel Clean Air™ Technology, EvōIAIR UV products use 254nm UV light in a patented engineered air purification technology system to reduce levels of harmful viruses, bacteria and fungi by automatically and continuously treating the air<sup>1</sup>.

These products provide an environmental treatment system in a traditional light fixture design. Unlike other 254nm devices, Onboard Air UV light disinfection technology may be used in occupied rooms, allowing for 24 hours per day of concealed ultraviolet germicidal irradiation (UVGI). This device uses fans to draw room air through a filter into a hidden UVC neutralization chamber mounted inside a standard ceiling panel size fixture, with or without integrated ambient illumination. The treated air is then returned to the room as the cycle continues.

### **2. What types of applications are good candidates for the Onboard Air UV light disinfection solution?**

Onboard Air UV light disinfection products are suited for any commercial indoor space where a reduction in harmful pathogens<sup>1</sup> is desired or required. Examples include healthcare, education, commercial office, hospitality, retail, manufacturing (e.g., food processing plants), and general public and customer indoor gathering spaces at airports, restaurants and theatres.

The integrated fans move the air at 50 cubic feet per minute (cfm), providing a 10' x 10' room with an 8-foot ceiling a calculated equivalent of almost 4 air cycles per hour (i.e., 800 cf of air every 16 minutes). If used in higher ceilings, the area of coverage in square feet is less but the cubic volume remains the same.

### **3. How does the Onboard Air UV light disinfection technology work?**

The Onboard Air UV light disinfection system is designed to work in standard grid ceiling construction for either new or existing projects. This simple system operates without interruption 24/7/365 and does not interfere with how people use the space. In other words, the system can be operated during occupancy.

The embedded, patented treatment technology quietly draws air into a sealed 254nm UVC air chamber with a series of fans and filters. Air is circulated through the UVC air chamber where it is treated with an enclosed high intensity 254nm light to

inactivate bacteria, fungus and viruses in the air<sup>1</sup>. Treated air is then returned to the room creating a cleaner environment. Available for pathogen control only or with integrated ambient illumination, this system is unobtrusive, works continuously within the ceiling design, and maintains the valuable floor space in occupied areas.

**4. How does the Onboard Air UV light disinfection technology compare to traditional UV disinfection technology within the HVAC system?**

Due to the very high velocity of air in most commercial HVAC systems (e.g., 400 to 1,000 cfm) it is difficult to design UV systems for high-volume air handlers. Generally, it is impractical to effectively treat the airstream and produce high rates of inactivation of airborne pathogens for each individual room. As such, UV in air handlers is generally not as an effective method for eliminating pathogens shed by occupants or from environmental sources found in commercial building air streams.

Instead, properly installed UV disinfection products in HVAC systems, along with a strict filter change regimen, primarily reduce the potential for growth of pathogens occurring within the air handler. The advantage of Onboard Air UV light disinfection technology is that it can inactivate harmful pathogens<sup>1</sup> as they are introduced in the room and **before** they enter the HVAC air filtration system.

**5. How is the Onboard Air UV light disinfection product maintained?**

The 254nm UV lamp should be changed annually. More detailed instructions for maintenance may be found in published installation manuals.

**6. What is the EvōIAIR UV™ warranty?**

Acuity Brands is offering a 5-year limited warranty for UV device housing, mechanical, white light-emitting components, ballast, and driver, and a 2-year limited warranty on UV device fans, switches, and other electrical components. No warranty is offered on UVC lamps and filters. Complete Acuity Brands UV Lighting warranty terms are located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions).

## **Footnote References**

- <sup>1</sup> Refer to product specification sheets at [www.acuitybrands.com/UV-Products](http://www.acuitybrands.com/UV-Products) for efficacy claims and claim substantiation regarding specific products and pathogens.
- <sup>2</sup> Wladyslaw Kowalski. (2009). UVGI for Air and Surface Disinfection. Ultraviolet Germicidal Irradiation Handbook. [DOI: 10.1007/978-3-642-01999-9\\_15](https://doi.org/10.1007/978-3-642-01999-9_15)
- <sup>3</sup> The references listed below apply to SARS-CoV-2, providing data on inactivation under specific test conditions. Level of inactivation in application will be based on dose/distance/time as delivered from a specific UV technology/product and will vary based on environmental conditions of the installation.
  - Storm, Nadia. (2020). Rapid and complete inactivation of SARS-CoV-2 by ultraviolet-C irradiation. [DOI: 10.21203/rs.3.rs-65742/v2](https://doi.org/10.21203/rs.3.rs-65742/v2)
  - Kitagawa, Hiroki. (2020). Effectiveness of 222-nm ultraviolet light on disinfecting SARS-CoV-2 surface contamination. [DOI: 10.1016/j.ajic.2020.08.022](https://doi.org/10.1016/j.ajic.2020.08.022)
  - Jureka, Alexander S. (2021). Pulsed broad-spectrum UV light effectively inactivates SARS-CoV-2 on multiple surfaces. [DOI: 10.1101/2021.02.12.431032](https://doi.org/10.1101/2021.02.12.431032)
- <sup>4</sup> Maclean M, McKenzie K, Anderson JG, Gettinby G, MacGregor SJ. 405 nm light technology for the inactivation of pathogens and its potential role for environmental disinfection and infection control. *J Hosp Infect.* 2014;88(1):1-11. doi: [10.1016/j.jhin.2014.06.004](https://doi.org/10.1016/j.jhin.2014.06.004)
- <sup>5</sup> [UV Published Research References](#)

*\*All references to “disinfection” are referring generally to the reduction of pathogenic bioburden and are not intended to refer to any specific definition of the term as may be used for other purposes by the U.S. Food and Drug Administration or the U.S. Environmental Protection Agency. Reduction of the pathogenic bioburden is a function of fixture run time, distance to the UV light source, airflow, room size and/or other factors, and the level of reduction will vary within a specific space. Neither the disinfection technology as incorporated in Acuity Brands products nor the products themselves are intended for use as a medical device or for the disinfection of medical devices.*

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