

Ultraviolet Germicidal Irradiation (UVGI) Technology Overview

Why is UVGI important?

Ultraviolet germicidal irradiation (UVGI)¹ technology, also known as UVC or UV-C², improves indoor air quality and occupant health by reducing airborne transmission of microbial organisms such as bacteria, fungi, mold and viruses, including COVID-19.

UVGI Applications:

From healthcare campuses and transportation hubs to higher education institutions and public assembly spaces, UVGI technology is pertinent to all types of buildings for the following applications:

- Air filtration with antimicrobial nanotechnology
- Air-handler disinfection
- ATU/RTU airstream disinfection
- Exhaust odor control
- Ice machine sterilization
- In-room disinfection (unoccupied)
- Make-up air and return air disinfection
- Personal protective equipment sterilization
- Surface/handheld disinfection

What does UVGI do?

- Inactivates microbial organisms such as bacteria, fungi, mold and viruses, including MERS, SARS, Influenza and COVID-19, by altering the structure and molecular bonds of their DNA.
- Destroys the organism's ability to reproduce and colonize, thus leaving no offspring and rapidly diminishing the population of microorganisms.
- Provides powerful and concentrated effect of ultraviolet energy through use of UV emitters/lamps.
- Ensures a healthy, safe environment for building occupants by increasing the air quality.
- Cleans and disinfects area or equipment where UVC emitters are installed.
- Contributes to LEED points in the following areas: Energy and Atmosphere, Water Efficiency, Indoor Environmental Quality, Innovation & Design Process and Regional Priorities.

UVGI Customers:

The following is just a sampling of Flow Tech's UVGI customers.

- Baystate Medical Center
- Berkshire Health Systems
- Griffin Hospital
- Hartford Hospital
- Margaritas Restaurant Group
- Mohegan Sun Casino
- Sheffield Pharmaceutical
- Yale New Haven Hospital

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Flow Tech Resources:

Flow Tech is proud to represent [Steril-Aire](#) and [Fresh-Aire UV](#), two manufacturers of UVGI technology.

- [COVID-19 Containment Solutions](#)
- [Flow Tech Keeps Hartford Hospital's ORs Running Safely and Efficiently](#)
- [Fresh-Aire UV Purity Low Profile 2" Polarized Filtration System](#)
- [Steril-Aire Coronavirus and UVC](#)
- [UV-C Germicidal Technologies' Effectiveness Against COVID-19](#)

3rd Party Endorsements:

1. ASHRAE: [Ultraviolet Energy \(UV-C\)](#)
2. HPAC Engineering: [UV Light, BPI Among Industry Responses to Kill, Control Virus](#)
3. ResearchGate: [UV Disinfection of N95 Filtering Facepiece Respirators: A Brief Review](#)
4. The New York Times: [Scientists Consider Indoor Ultraviolet Light to Zap Coronavirus in the Air](#)
5. What Now Atlanta: [Colony Square Installing UVC Lighting In Offices to 'Purify and Destroy Airborne Bio-Contaminants'](#)

Glossary:

¹ Ultra-violet germicidal irradiation (UVGI), is a disinfection method that uses short-wavelength ultraviolet (ultraviolet C or UVC) light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.

² Ultraviolet C (UV-C or UVC), is one of the four spectral areas of the UV spectrum of light naturally produced by the sun. The entire UV spectrum can kill or inactivate many microorganism species, preventing them from replicating. UVC energy at 253.7 nanometers provides the most germicidal effect.