



**UV was first demonstrated to disinfect water in 1877.**

• Proceedings of Royal Society of London

**In-duct UVGI should always be used in combination with filtration.**

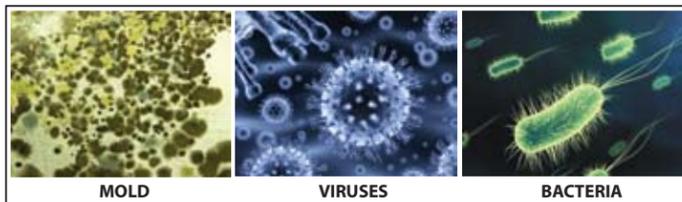
• ASHRAE Journal

**UV lamps have been used to inactive airborne microorganisms for many years.**

• United States Environmental Protection Agency

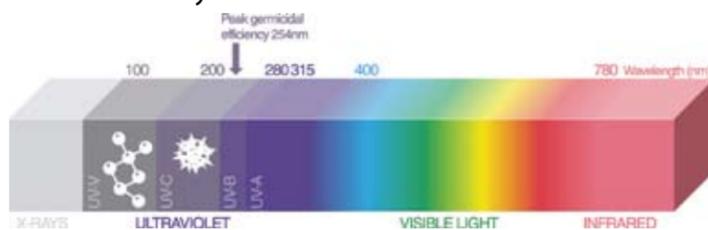
## THE POWER OF THE SUN IN YOUR HVAC UNIT

Filtration Group has long been known as an industry leader in providing air filtration products for removing harmful or unwanted particulate and contaminants. What you may not know is that Filtration Group also has the ability to supply a wide variety of state of the art products for destroying biological contaminants for both air and object purification applications. These contaminants include mold, bacteria, viruses, allergens and other pollutants which may not be captured by traditional air filtration products.



### THE SUN & UV RAYS

The Sun delivers specific UV wavelengths that destroy biological contaminants that are introduced into the atmosphere. Just like the Sun's UVC rays, VioStar UV systems produce the exact UV light wavelengths, bringing the same natural process into building environments. VioStar UV Air and Object Purification Systems continuously destroy the biological contaminants as they circulate through the building or grow on cooling coils, resulting in a true whole-building air treatment system.



### UVC LIGHT

The UVC (254 nm) light produced by VioStar UV Systems is the same UV wavelength light produced by the Sun. The UVC wavelength attacks the microorganism on a molecular level deactivating and destroying the contaminant. Unlike conventional UV "sticklights" on the market, VioStar Bio-Wall and Crystal Coil Systems use a patented process designed to deliver the maximum UV dosage to the desired target.

### "WHAT DO YOU WANT TO TREAT, THE AIR OR THE COIL?"

Using Ultraviolet energy to destroy biological contaminants may be rooted in science, but how do we deliver the ultraviolet intensity needed to destroy the biological contaminants that may be traveling through the building's ventilation system or the mold growing on



A typical Crystal Coil installation

an evaporator coil? Now we have a chance to revisit the question, "air or coil"? One can be very successful treating both applications when UV is applied correctly. If an end-user is expecting IAQ benefits from UV systems mounted on a coil, they could be disappointed to find out that the results may be nominal. As explained in Chapter 16 of the ASHRAE Handbook, the benefits to UV lights mounted on a coil are limited for the most

part to maintaining system cleanliness, improving energy efficiencies and improving IAQ resulting from a dirty coil. Improving a building's IAQ resulting from other sources besides a dirty coil however is not one of these benefits.

### MAKING AN EFFECTIVE PRODUCT RECOMMENDATION

Sizing a commercial UV job is much more than just installing a UV lamp into a duct or mounting one onto an evaporator coil. Various factors need to be considered such as air temperature, humidity, evaporator coil dimensions, air velocities, upstream or downstream coil side installation, duct size, percentage of fresh air, target biological contaminants, desired kill rate, UV lamp aging, lamp fouling and lamp cooling when properly sizing a UV installation. Only when these factors are considered can we move forward in making an appropriate UV equipment sizing proposal.

Filtration Group has developed sizing software for both Bio-Wall air purification and Crystal Coil coil cleaning applications taking into account all of the variables mentioned above influencing microorganism destruction rate. By inputting these variables into the software, Filtration Group can provide a representation of how the UV system will actually perform in 'Real-Time' after installation. This is a valuable tool. The end-user will have at their disposal the destruction rate for any particular contaminant as well as how and where to place the UV system(s). When properly sized, UV air and object purification technologies can dramatically improve air quality and reduce maintenance costs while improving energy savings.



## FILTRATION GROUP ANNOUNCES JOINT VENTURE FILTRAIR ASIA



Spectrum Filtration Headquarters, Kolkata, India

Filtrair of Heerenveen, The Netherlands and Spectrum Filtration of Kolkata, India are pleased to announce that the companies are planning to form a joint venture Filtrair Asia. The company will produce and

market the Optipleat product line in India. Filtrair will supply the manufacturing equipment and provide the engineering support to the patented product. Spectrum Filtration will be responsible for production, the facility and managing the business. Both parent companies will support the marketing of the product.

"This joint venture between Filtrair and Spectrum Filtration will establish our second manufacturing JV in Asia and our first in the rapidly growing market of India. Our relationship with Spectrum goes back over ten years and we are looking forward to strengthening the partnership for years to come," notes Brandon Ost, CEO Filtration Group.

The Optipleat has an excellent performance reputation in applications as varied as air filtration for gas turbines to air filtration in automotive paint booths, hospitals, and pharmaceutical facilities. The Optipleat provides high levels of fine airborne particulate removal with exceptionally low resistance to air flow.



