

**m'cube**®  
ACMV MAINTENANCE SPECIALIST



**ENGINEERING AND REVOLUTIONARY  
UVGI DISINFECTION**

# UV-C Disinfection Services



## The Value of UV-C

UV-C is a low cost solution to disinfect cooling coils, drain pans and duct surfaces that have accumulated mold and bacteria growth. The technology disrupts a microorganism's DNA, triggering a chain reaction that leads to cellular death. Because the lamps operate continuously, biofilms are unable to regenerate, provided the UV-C source is properly maintained. This technology is frequently used to address many sources of poor indoor air quality that contribute to employee discomfort and absenteeism.

Contaminants, particularly the presence of fungi (mycotoxins), can trigger serious health problems to building occupants. As noted in an Applied and Environmental Microbiology study, "fungi have been found growing on air filters, insulation and cooling coils, as well as in ducts.

The contamination often contributes to building related diseases, including both infectious diseases and hypersensitivity diseases such as allergic rhinitis, asthma and hypersensitivity pneumonitis."

Acute toxicosis and cancer have also been attributed to respiratory exposure to mycotoxins. A building's ACMV system can also inadvertently transmit rhinoviruses (common cold), tuberculosis, measles, SARS and influenza.



## **UV-C Lamps for AHU Coil Surface Irradiation**

This option is designed to treat the surface of the cooling coil and drain pan of the air handling unit. UV-C lights are attached to mounting brackets installed in the coil segment in such a way that the coil and drain pan are continuously exposed to the UV-C lights.

## **UV-C Lamps for Airborne Inactivation**

The Airborne Inactivation Option is a stand-alone segment specially designed to attack airborne viruses in moving air streams. This segment can be installed upstream and or downstream of all cooling coil segments. The UV-C lights are configured in such a way so as to kill or disinfect microbial agents "On-the-fly" as the air moves past the UV-C lights.



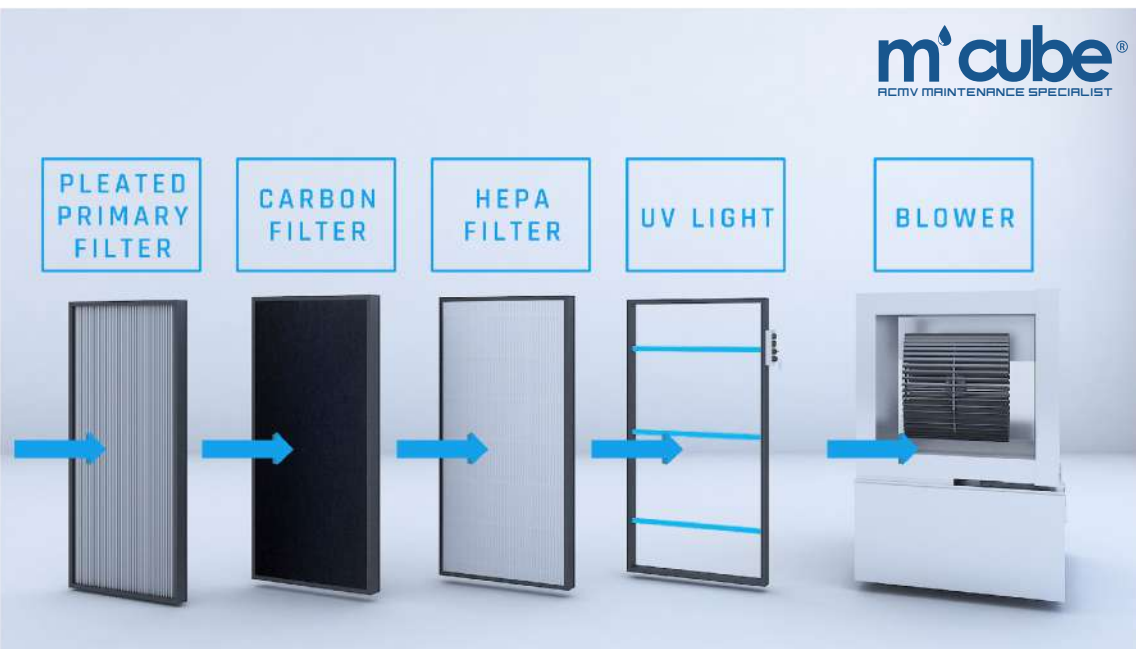
## Portable UVGI Air Steriliser

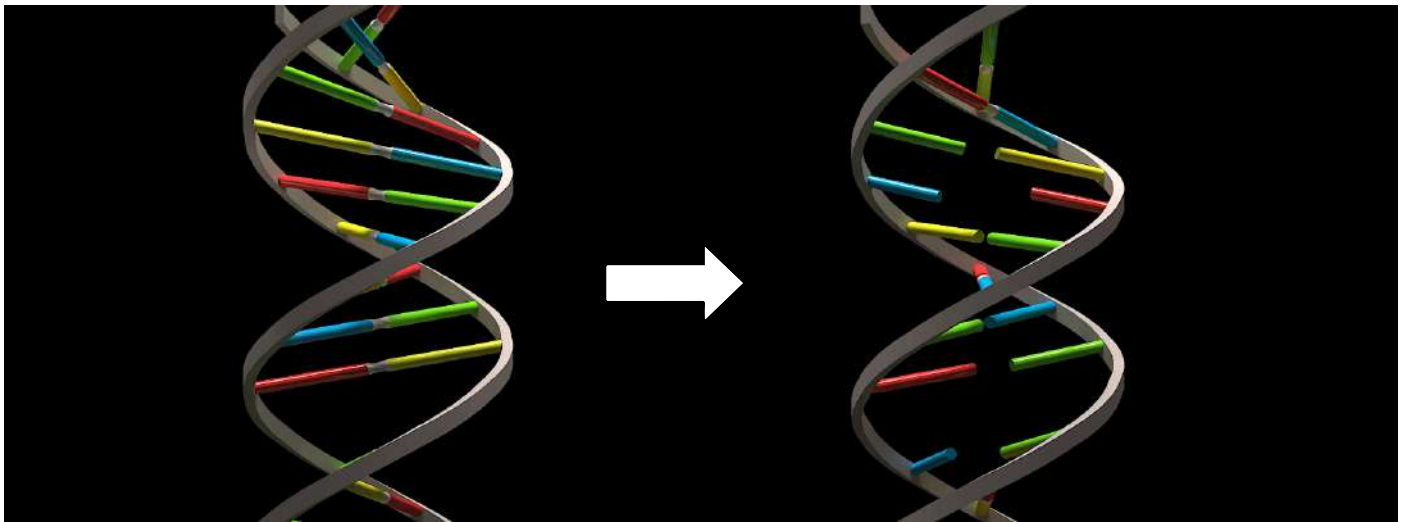
Our Portable UVGI Air Steriliser can be deployed in various locations such as healthcare establishment, offices or even events sites. We use multi-stage filtration and sterilisation technology, which will eliminate most bacteria, viruses and odours.

# Pleated Primary Filter



We use pleated AAF AmAir 300E filters as the primary filter, which has high loft media increasing the dust holding capacity and expanded metal support grid increases the stability of the pleat pack. This synthetic media displays great tensile strength, reducing the chance of damage during handling and operation. This media is also environmentally and user friendly: it does not contain any harsh resins or artificial colouring. It can therefore be readily disposed of by landfill or incineration. The pleated media pack of both ranges of filters is housed within a sturdy double-walled, die-cut box, beverage board frame. To ensure the media pack does not rack or deteriorate under difficult operating conditions, it is bonded to the inside of its frame at all points of contact and retained in position by retainers at the air leaving and air entering sides.





**DNA Structure  
Intact**

**DNA Structure  
Disrupted**

## Carbon Filter

For the carbon filter, AAF AmAir C series filter were used. It has high chemical media density which yields superior odour control and a MERV 7 particulate filtration efficiency. It is more effective than other odour control filters because they contain more chemical media, using AAF Flanders' SAAFWeb™ technology. The carbon filter contains AAF's SAAFOxidant™, which is an exclusive formulation of activated alumina impregnated with potassium permanganate, for the most effective gaseous-contaminant chemisorption available. Greater gas-phase media density solves your odour problems by removing odour concentrations and providing protection over a longer period of time.

## Ultraviolet Light

Ultraviolet Germicidal Irradiation (UVGI) utilises the light energy in the UV-C bandwidth (UV-A is used for tanning lamps and black lights, UV-B for dermatology). UV light is most effective at sterilising when in the "C" band range of 200 – 280 nm. which produces germicidal effects on pathogens, scrambling their DNA, thus "killing" them and reducing the number of viable bacteria and colony forming units of mold .

**For any enquiries or information, please contact us at:**

M-cube Engineering Sdn Bhd (612336-U) No. 29, Gravitas, Jalan 22/5, Seksyen 22, 40300 Shah Alam, Malaysia. T: +603- 5103- 3603 W: [www.m-cube.com.my](http://www.m-cube.com.my) E: [info@m-cube.com.my](mailto:info@m-cube.com.my)

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