



A common problem with building ventilation systems has been microbes growing and forming biofilms on heat exchange coils. These sticky, glue-like substances trap dust and reduce heat exchange efficiency; resulting in higher running costs. Manual cleaning damages the coils but by exposing the coils to constant UVC light, biofilm growth is prevented.

This is where Plasma Clean's **CoilKlean UVGI** comes into its own; the unit (a modular system which offers the flexibility of installation in any size Air Handling Unit, Fan Coil or Cassette Unit) keeps the coil clean, perpetually disinfecting 99+% of viruses, bacteria, mould, spores and fungi. Not only does this eradicate microbial growth, but it also helps to maintain optimum heat transfer across the coil surface and maximises energy efficiency.

By installing the CoilKlean UVGI, maintenance costs are reduced. There is a reduction in the transmission of airborne infection and odours throughout the building, reducing staff and customer illness.

The CoilKlean UVGI can be installed into new developments and can be retrofitted into existing HVAC systems.

PRODUCT SPECIFICATION

Model	CoilKlean Short	CoilKlean Long
Supply (per lamp)	1ph/230v/0.39A	1ph/230v/0.7A
Power	90W	160W
Weight (lamp frame)	3kg	4kg
Dimensions (lamp frame) HWLmm	70 x 900 x 50	70 x 1600 x 50
Cooling Coil coverage (at 400mm from Coil Surface) HWmm	800 x 755	800 x 1420

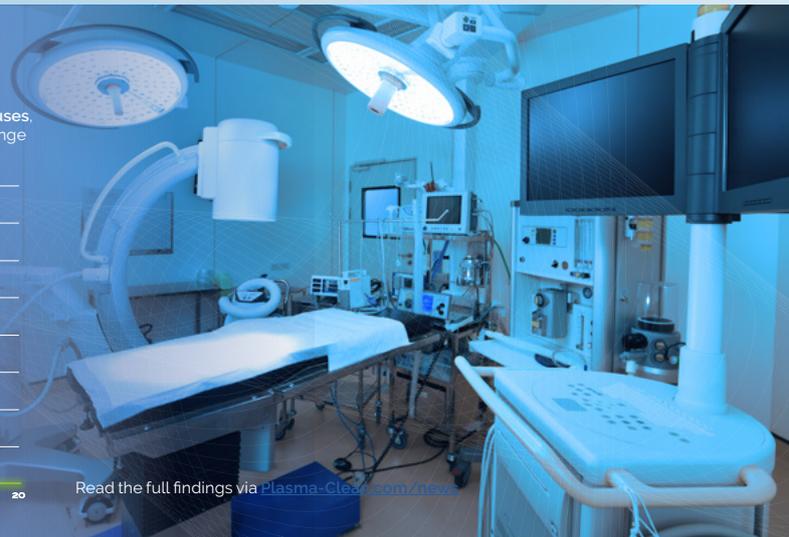
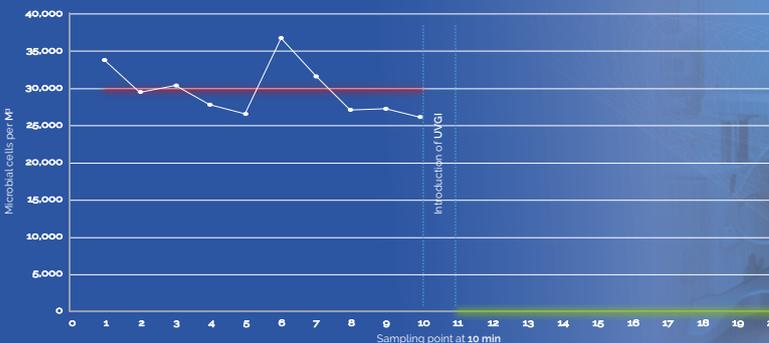
KEY ADVANTAGES

- Prevents biofilm formation and keeps heat exchange coils clean
- Disinfects 99+% of bacteria, viruses, mould, fungi
- Improves energy savings
- Dramatically reduces manual coil cleaning
- Quick and easy retrofit
- Quiet operation
- Low cost and limited maintenance requirements

*Plasma Clean is continuously improving its products and services and reserves the right to alter designs without prior notice

99+% DISINFECTION RATE

UVC light at 254nm is known as 'germicidal irradiation' due to its lethal effect on micro-organisms. Independent testing conducted at the University of Leeds, showed a reduction of over 99% of viruses, bacteria, spores and fungi when exposed to our UVGI products. Tests were conducted using a range of biological indicators designed for the pharmaceutical, food and medical device industries.



Read the full findings via Plasma-Clean.com/leeds

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Air Treatment using CoilKlean UVGI

Ultraviolet light in the c-band range (225–302 nm) is lethal to micro-organisms and is referred to as ultraviolet germicidal irradiation (UVGI). UVGI works by cross linking nucleic acids (DNA & RNA) to prevent replication and proliferation of micro-organisms such as viruses, bacteria, spores, moulds, yeast and fungi. It is important to use the correct UV-C dosage in order to achieve high kill rates. Low intensity UVC can be used for surface treatment as there is a long UVC exposure time whereas high intensity UVC is required for air treatment as the exposure time is short. Plasma Clean UVGI systems are sized to achieve up to 99% microbial kill rate for common microbes based on UVC dosage tables in the scientific literature as well as independent testing carried out by Plasma Clean.

Plasma Clean's UVGI **in-duct** range consists of the CoilKlean UVGI for surface treatment of heat exchange coils, plus our Techniklean UVGI series designed to treat air in building ventilation systems. Our **standalone units** include the 'plug and play' AirKlean UVGI, the RoomKlean UVGI for upper room disinfection, and the MobiKlean UVGI for safely and quickly disinfecting entire rooms.

Air Treatment using CoilKlean UVGI

UVC light prevents microbial biofilms forming on cooling coils in Air Handling Units. Biofilms are formed by the growth of mould, fungi and bacteria on the coil surfaces which are an ideal breeding ground for micro-organisms. A sticky glue-like substance produced also traps dust. By irradiating the coils with high intensity UVC light, the coil keeps clean and maintains optimum heat transfer across the coil surface. There is also a reduced maintenance cost and an improvement in IAQ. This is a modular system which offers the flexibility of installation in any size Air Handling Unit, Fan Coil or Cassette Unit.

Sizing of Equipment – CoilKlean UVGI

To accurately specify the correct equipment to ensure optimum germicidal performance, the following information is required:

- Height x width of the heat exchange coil
- Available length of the AHU compartment where the UVGI equipment is to be installed
- Temperature

Installation

UV-C lamps are to be located 300-500mm upstream or downstream from the coil surface and sized to provide an equal distribution of UV coverage. Installing the equipment downstream has the advantage of also treating the condensate pan. Where more than one row of lamps is used, lamps are to be located a maximum distance of 900mm apart. The ballast box and control panel are to be located close to the AHU (within 2.5m of the UVC lamps). The Coil Clean system is designed to be moisture resistant and wired using moisture resistant conduit. For surge protection purposes it is recommended to install a Class D MCB circuit breaker in the electrical supply.

Kit Contents

CoilKlean UVGI lamp rack with separate ballast box
 Mains power cable – 2m
 Installation kit

Accessories

Control panel with air flow interlock and fault relay with BMS connectivity. Other control panels are available, please enquire.
 Door safety switch

Safety

For UVC safety, the units are to be interlocked with the door and air flow to ensure the UV lamps de-energise when the AHU is opened, please enquire.

Maintenance

A Plasma Clean service contract is available (please enquire) and in any case Plasma Clean would recommend:

- Servicing is normally confined to the regular cleaning of the UV-C lamps as part of a maintenance programme managed by Plasma Clean or a Plasma Clean approved contractor
- For maximum efficiency establish a regular cleaning cycle based on routine checks of the UV lamps during the first few months of use.
- The UV lamps have a normal operating life of up to 9,000hrs with no more than 20% loss in output, after which time they should be replaced.
- Note that the system is designed to operate optimally using Plasma Clean UVGI germicidal lamps.

Technical Drawing

Please contact our Technical Helpdesk if a CAD drawing is required.

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