

Techniclean



for high
intensity odours

Techniclean
UV Filtration

For High Intensity Odour Control

Plasma Clean offers a range of integrated process technologies for the control of grease, smoke and odour for a range of commercial and industrial applications. The Techniclean UV filtration system features special UV lamps which are used to break down odour and grease in the extract air by the mechanism of photolysis and ozonolysis – combining high power UV light with ozone technology. The end products of the destruction of the organic material are carbon dioxide and water vapour.

The Key advantages of the Techniclean System are:

- High Power UV-C Technology
- Destroys cooking odours
- Keeps extract ductwork virtually grease free
- Automatic operation
- Reduced fire risk
- Eliminates the need for regular ductwork cleaning
- Low cost and limited maintenance requirements
- Ability of heat recovery due to grease-free air

Combining UV-C light with ozone technology, the Techniclean UV filtration system keeps the downstream extract ductwork virtually grease free, significantly extending the period between duct cleaning, reducing fire risk and keeping heat recovery surfaces clean.

Oxidation of odour and grease by a combination of photolysis and ozonolysis is a recognised means of pollution abatement (DEFRA, 2005:Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems). The Techniclean UV Filtration system is used across a wide range of applications from restaurants and cafes to food factories located in residential and business areas to control odour from commercial cooking processes.

Safety

High power UV lamps operate in the UV-C band, and direct exposure can be damaging to the eye. The lamps are contained within the reactor and are not visible from the exterior. Safety interlocks turn off the lamps to prevent direct exposure. The system features a range of safety features including an engineers run back timer to indicate tube replacement.

Safety features:

- MCB protection
- 24V circuit control
- Engineers run back timer to indicate tube replacement
- Flow proving switch
- Sequential lamp frame start-up
- Lamp failure alarm

Installation

The system has been designed to sit in the duct run and should be located as close to the cooking process as possible in order to reduce grease content and so leaving the downstream duct virtually grease free. The system has a low back pressure and is hardwired into mains electricity to ensure that the system operates automatically when the extraction system is activated. Full installation and operating instructions are provided.

Operation and Maintenance

Over time, and dependent on usage frequency, a fine layer of ash is deposited on the UV-C lamps. These require occasional cleaning by simply wiping them with a cloth soaked in detergent.

Maintenance and lamp replacement can be carried out under a stringent Plasma Clean maintenance contract.

Electrostatic Precipitators

Where there is a high level of grease and smoke released into the ventilation system, Plasma Clean recommends that an electrostatic precipitator is used in conjunction with the Techniclean UV Filtration system. This helps to protect the UV-C lamps from the build up of grease and smoke residues and so ensuring that the system continues to operate to a high level of efficiency.

Electrostatic Precipitators or ESPs work by ionizing and trapping grease and smoke particles onto collector plates. They have a low pressure drop and high particulate removal efficiency and can be configured in single, double or triple pass depending on the nature of the cooking. The collector plates require periodic cleaning to maintain the high level of efficiency expected from this equipment