



Industrial Odour Control Experience

The Techniclean UV odour control system has been used in over 200 systems Worldwide for commercial catering applications and industrial / food production / wastewater treatment.

Plasma Clean has acquired rights to the system from TechniAir, and this high power UV odour control system now complements the range of commercial and industrial air quality products manufactured and supplied by Plasma Clean.

Odour destruction is achieved by ozonolysis and photolysis reactions using special UV lamps that fragment and destroy the grease and odour compounds.

Plasma Clean has portable test rigs that can be used to demonstrate odour control at client's sites.

Industrial Projects

Northern Foods, Grantham, Cambs.

Five odour control systems installed treating fume from kettles and pans producing a range of spicy sauces. One system treats fume from onion frying.

Ferndale Foods, Erith, Kent.

Two odour control systems installed treating fume from kettles producing a range of sauces and soups.

Walsh Family Foods, Dublin, Ireland

Odour control system to destroy grease and odours from a frying line handling a range of deep-fried spiced meat and vegetable products including garlic mushrooms.

Tracklements Co, Malmesbury, Wilts

Odour control system to destroy odours from onion cooking.

Dafgard AB, Sweden

Grease & odour control system for meatball frying line using centrifugal separator from CentriAir AB and UV system from TechniAir.

Nestle Purina Petcare, Wisbech, Cambs.

Odour control system for wastewater treatment plant including covers and enclosures for balance tank and DAF unit with extract systems and UV reactor to destroy odours. System upgraded in 2005 to include automatic CIP. System further upgraded in 2006 to add carbon filter after UV to provide further odour reduction

Estech (Europe) Ltd, Aldridge, West Midlands.

Odour control system for Fibrecycle mobile trailer mounted demonstration plant processing municipal waste into sanitised recyclable fibre and other recyclable products.

Ryvita Ltd Poole, Dorset

Consultancy contract to investigate and design odour abatement system.

Project Profile

Anglo-American plc, 20 Carlton House Terrace, London

The London Head Office of the international mining house, Anglo-American in Carlton House Terrace, has in house kitchens for the staff and Director's dining rooms. The kitchen extract vent discharges at low-level to the rear of the premises. The office building is overlooked by a high-rise block of flats and there are also offices and flats in the street close to the discharge vent.

There had been a history of cooking smells outside the building that had led to complaints to the Environmental Health Department of Westminster City Council.

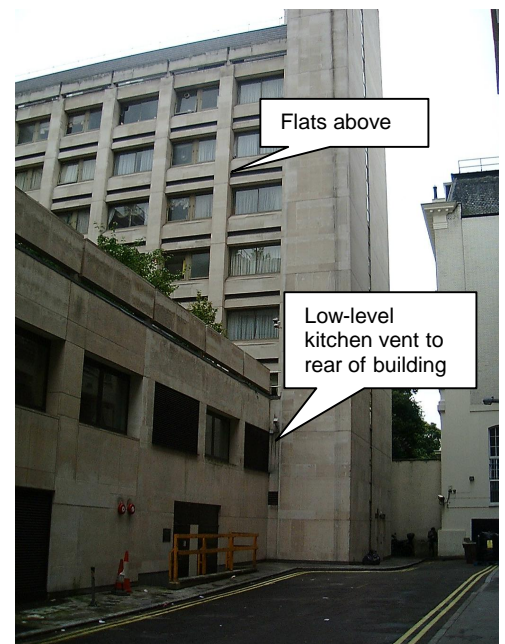
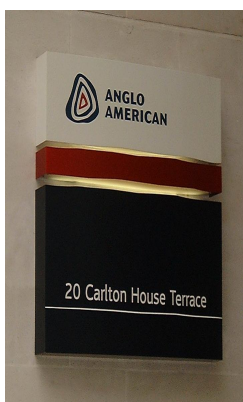
The original odour abatement system used a masking agent injected in to extract air leaving the air-handling unit. The smell of the masking agent was found to be as unacceptable as the cooking odours.

To eliminate the odour problems the kitchens were upgraded with new canopies and the masking agent dosing system removed. Air ($1.86\text{m}^3/\text{sec}$) from various cooking operations is captured in canopies supplied by the kitchen contractor fitted with a TechniClean UV system. Air from the canopies is further treated in a catalytic unit mounted within the existing air handling unit to destroy traces of ozone before discharging close to the ground at the rear of the premises.

This advanced treatment system enables kitchen extracts to be vented at low-level without the need for a high-level discharge and one can stand underneath the extract vent and note the absence of any cooking odours.

Installed:

April 2001





Project Profile

The London Hilton, Park Lane

Phase 1

Air from the kitchen vent on the banqueting kitchen at The London Hilton is discharged on the roof of the plant room. Under certain weather conditions, the smell from the kitchen vent could enter the inlet to the air conditioning system.

The TechniAir installation treats 7 m³/sec of air in a reactor containing special UV lamps located in the plant room on the roof. Access to the plant room is difficult and the reactor was specially designed in sections. The reactor sections were carried up the internal stairways and assembled in the plant room, thus avoiding the need for a crane.

The TechniClean UV system gives an odour-free kitchen vent discharge and has eliminated the odour problem in the ventilation system.

Installed: January 2000

Phase 2

The TechniClean UV grease and odour control system is used in the Vent Master ReactoVent canopies installed in the Grapevine, Brasserie and Wellington kitchens at the London Hilton.

Air is extracted from the ReactoVent canopies in the three kitchens (6.7 m³/s) along with (3.4 m³/s) extracted from non-cooking duties in other parts of the building. The combined airflow is treated in a TechniAir catalytic ozone destruction unit to give grease, odour and ozone free discharge of 10.1 m³/s.

This final treatment is required because of the possibility of discharged air being sucked into the air intakes to the supply/make-up air for the hotel.

Installed: January 2001

Project Profile

Café Rouge, Canary Wharf, London

The restaurant is located in on the ground floor of a high-rise building with offices above. There is no riser to take kitchen fume to a high level and the kitchen is discharged at low level through vents above the awnings over the pavement café.

Fumes from a kitchen extract discharged at ground level can cause offence to neighbours in the upper parts of the building and to customers sitting at tables underneath the vents. The landlord, Canary Wharf Management, demands high standards of kitchen fume treatment and require kitchen discharges to be smoke and odour free.

The system installed comprises:

- canopy fitted with High Efficiency baffle filters
- primary and secondary stage UV lamps
- Prefilters (to protect HEPA filters)
- HEPA filters
- carbon catalyst
- extract fan
- attenuator
- low level vent

On this site the kitchen discharge vent is at low-level and into a sensitive area. The system has been used on other installations at Canary Wharf including the Cat and Canary and Bank of America.

The Café Rouge odour control system, installed in January 2004, handles 2.8 m³/sec.



Project Profile

“The Water Margins”, Water Gardens, Harlow, Essex

The restaurant is located in on the ground floor of the Harlow Civic Buildings that forms part of the redevelopment of Harlow Town Centre. The development was recently awarded the Gold Standard Town Centre Environment Award coming first out of 35 town centre entrants.

The restaurant cooks Chinese and Japanese food and fumes from the cooking are treated in two extract lines.

The extract from the Main canopy over the gas-fired ranges and woks and the Tepanyaki canopy over the grill are captured in a canopies fitted with high efficiency baffle filters. The fume then passes to a duct mounted electrostatic precipitator that removes smoke and before treatment with ultra-violet light in a duct mounted reactor to destroy cooking odours (7.2 m³/sec)

Extract from the rice steamer, ovens, dish wash and potwash are captured in individual canopies and treated in an in-duct mounted UV reactor (2.3 m³/sec).

The treated fume (9.5 m³/sec) is collected into a common fan and discharged at roof level at the rear of the building.

Client:	Water Margin Ltd
Main Contractor:	Patten Ltd
Ventilation Contractor:	Belvoir Building Services Ltd
M&E Consultant:	White Young Green Ltd

The restaurant is located in a sensitive location facing the Water Gardens and with council offices above and the local authority insisted on no odour nuisance from the restaurant.

Installed January 2005.



Project Profile – Walsh Family Foods, Dublin

Food Frying Line & Odour Problems

Walsh Family Foods produce a range of fried food products on a 360kW fryer line. Hot air extracted from the fryer line ($1\text{m}^3/\text{sec}$) contains steam, entrained grease, food particles and strong cooking odours from a variety of spicy products.

The grease load is very heavy and the existing ductwork and fan had become coated with a deposit. The odour of frying oil, garlic and spices caused problems with neighbouring factories and houses outside the trading estate.

A grease and odour control plant was installed to treat air from the fryer to eliminate the nuisance. The plant comprises:

- Quench scrubber – to remove entrained grease and solids.
- UV reactor – to destroy traces of grease and odours.
- Sludge recovery – to separate and recover oil and solids.
- Extract fan and ductwork.

Cleaned air is discharged from the roof of the building and there is no discernable odour outside the factory.

