



## REFERENCE

**viledon®**

### AIR POLLUTION CONTROL PROJECT AT A UK BAKERY

#### Introduction

The project was to design, supply, install and commission a dust control system at a UK Bakery.

#### Initial situation

A new production line was to be installed on site which required the extraction of airborne dust from an operator work area by means of two dust control booths. The following performance requirements had to be met:

- The rate of air movement away from the operator had to be sufficient to ensure that the current EH40 workplace exposure limit (WEL) of 10 mg/m<sup>3</sup> was not exceeded.
- The expectation was that exposure would be reduced to the indicative 2 mg/m<sup>3</sup> as suggested in HSE document SIM 01/2007/09.
- A minimum air movement of 0.5 m/s to be achieved in a specified zone from the front face of the extract plenum.
- Both dust control booths were to be able to operate simultaneously.

#### Viledon® engineering solution

The supply of two dust control booths with flush fitting extract plenums in 304 grade stainless steel. Both dust booths were able to operate simultaneously.

The internal ductwork to the dust control booth was supplied in 304 grade stainless steel whilst the external ductwork was supplied in galvanised mild steel.

#### Dust control unit

A dust control unit was also installed, which was designed for continuous operation and was located externally to the bakery.

This unit was supplied with a fully automatic, self cleaning, open pleat filter cartridge system. The system was ATEX compliant and suitable for use in Zone 22 (Category 3D) applications, as defined by ATEX – Directive 94/EC.



Viledon® Twist & Fix  
filter cartridges

EQUIPMENT SUPPLIED	QUANTITY & SPECIFICATION
Dust booths	2, dimensions 3.2 m (w) × 2.2 m (d) × 2.5 m (h)
Flush fitting extract plenums	304 grade stainless steel
Internal dust booth ductwork	304 grade stainless steel
Air pollution control unit	1 designed for continuous operation
Filter cartridge system	Open pleat filter cartridge system Fully automatic filter cleaning (Timed pulse of compressed air)
Cartridges	16 Twist & Fix filter with injection-moulded hook flange
ATEX compliant	Zone 22 (Category 3D)



Crane lowering dust control unit into location

#### Benefits for the user

- Operator protection to the required safe exposure limits as per current legislation.
- Safe and effective removal of flour dust from the working environment.
- Dust control unit ATEX compliant as defined by Directive 94/EC.
- Fully automatic filter cleaning.

#### Engineering work undertaken

- The design, supply, installation and commissioning of two dust control booths.
- Fitting of extract plenums and all attendant ductwork.
- Installation of air pollution control unit.



Dust control unit under construction

KEY DATA	
Location	United Kingdom
Industry	Food & Beverage
Sector	Bakery
General information	Supply of dust control booths, ductwork and dust control unit to ensure the safe and controlled removal of flour dust.

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