



REFERENCE

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ENGINEERING PROJECT AT A UK BAKERY

Introduction

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

Initial situation

A new production line was to be installed on site with the potential to add a further, similar line, at a later date. The following performance requirements had to be met:

- Filtration of all air delivered via the ventilation system to be free of mould and yeast.
- Air filtration would achieve relevant grade using EN779:2012 filters, positively clamped to ensure a leak free seal.
- The provision of a balancing air supply for the oven extracts based on an extract air volume flow rate of 2.0 m³/s.

The ventilation system was to provide filtered air to both the mixing and packing areas in plant, maintaining overpressure within the bakery production area.

Viledon® engineering solution

Two supply air systems were installed each comprising of an air handling unit (AHU) and supply ductwork, together with eight roof mounted extract fans.

Mixing end ventilation system

Supply air was via an AHU located outside the factory with aluminium ductwork running to textile drop assemblies.

The main ductwork header was designed to allow for the installation of additional duct branches and droppers should an additional line be required at a later date.

Packing end ventilation system

Fresh air is supplied by an AHU located outside the factory building. The air is conveyed via aluminium pipes to textile ventilation bags.



Viledon® WinAir pocket filter

Textile ducts were fitted, from one of the duct branches, to feed supply air to separate locations below a mezzanine platform.

EQUIPMENT SUPPLIED	QUANTITY & SPECIFICATION
Air Handling Units (AHU)	2, with 20 filters each
Filtration	40 WinAir pocket filters, filter class F8
Fan / motor	45 kW, 415 V, frequency converter controlled
Supply air volume	20 m³/s
Heating	Direct natural gas fired air heater module
Control panels	Stainless steel
Main plant ductwork	Aluminium construction, insulated and clad
Sub-mezzanine ductwork	Textile duct
Extract fans	8, roof mounted



Aluminium and textile ductwork being installed on site



Crane lifting AHU section onto the platform

Benefits for the user

- Hygienic air quality provided to remove mould and yeast spores.
- Effective ventilation to plant providing employee comfort and a safer working environment.
- Synthetic, non-fibre shedding filters in leak free clamping mechanism.
- Balanced air supply ensures efficient extract from oven areas.

Engineering work undertaken

- The design, supply, installation and commissioning of ventilation and environmental control equipment.
- Phased installation to allow for further development to plant.
- Supply and extract system designed to maintain overpressure within the bakery production area.



Aluminium ductwork with textile dropper assemblies

KEY DATA

Location	United Kingdom
Industry	Food & Beverage
Sector	Bakery
General information	New build project. Bakery ventilation to whole production area. From raw materials to despatch.

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