



# Food production facility

Case study

**Replacement of two bespoke 18m<sup>3</sup>/s supply air handling units complete with fitted controls at a large food production facility in Wiltshire, designed to adhere to their strict hygiene specification.**

VES were asked by Space Engineering Services to undertake a full technical survey of the existing units, with the aim of establishing feasibility of refurbishment or complete replacement and associated costs.

Due to the very high hygiene specification for the supply air serving the food production area, the new units were fitted with high grade filtration, adopting a similar specification to the existing units serving the space.

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<b>Client</b>	Space Engineering Services
<b>Sector</b>	Industrial
<b>Challenge</b>	Upgrading end of life air handling units within a two-week shutdown period
<b>Success</b>	New bespoke AHUs with fitted control panels installed, improving indoor air quality



## Challenge

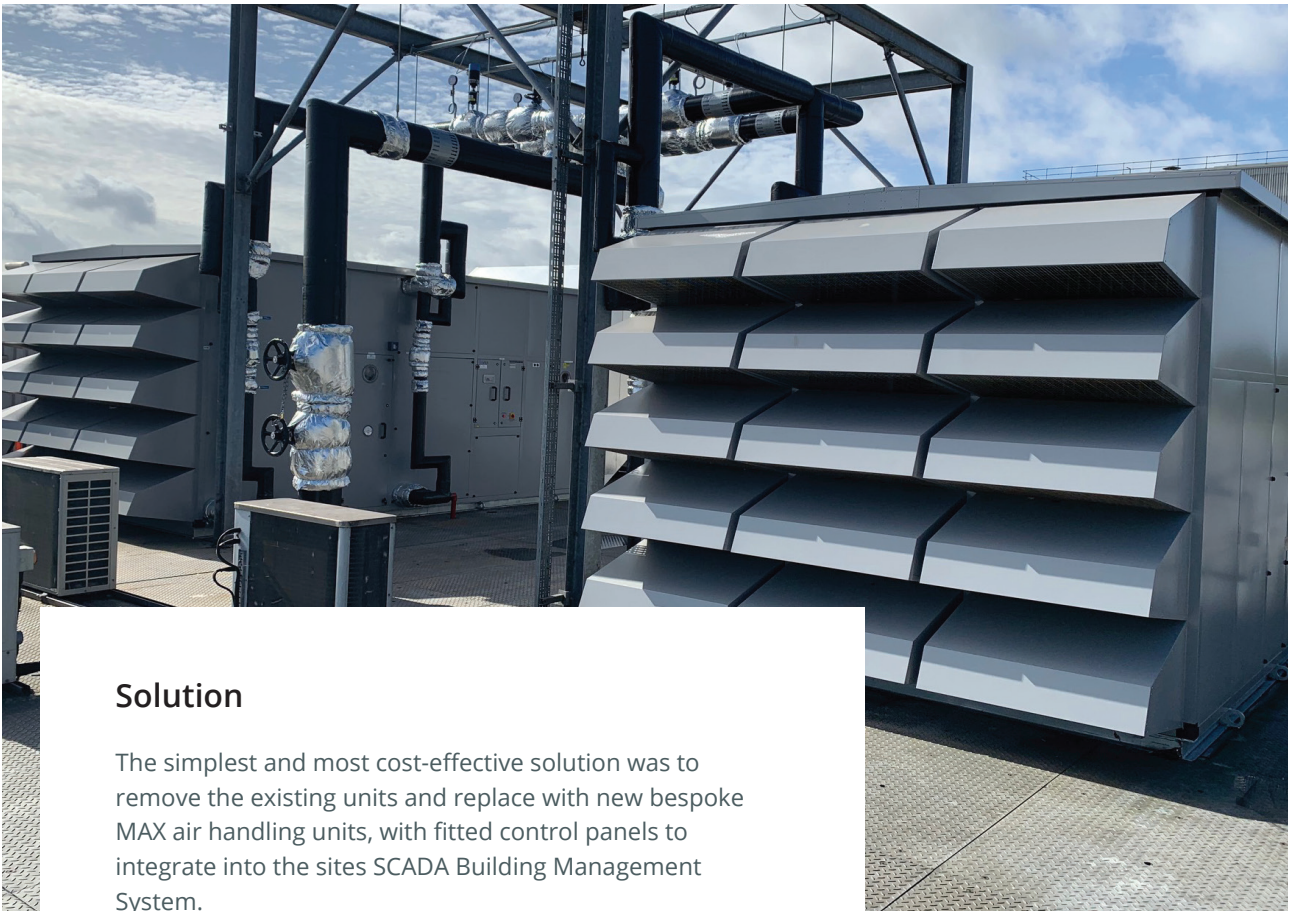
With a strict hygiene specification at the food production facility being the top priority, optimum indoor air quality was a key requirement of the air handling units effectiveness for the building operation, as well as ensuring occupant comfort for all its staff. In addition, there was a requirement to reduce maintenance overheads and energy consumption as part of the specification.



*Old air handling unit*

VES carried out a technical assessment of the existing AHUs, and due to the age, condition and location of the units, it was agreed they were at the end of their life expectancy and required full replacement. The existing AHUs comprised of steam heating coils, filters, future cooling coil section and an inefficient belt driven supply fan and motor assembly. This meant when maintenance was required, a planned shutdown had to be scheduled, which was an inconvenience for the client and somewhat costly.

The client also had a requirement for a special lock design for the fan sections of the AHUs, to prevent any unauthorised persons accessing the chambers.



## Solution

The simplest and most cost-effective solution was to remove the existing units and replace with new bespoke MAX air handling units, with fitted control panels to integrate into the sites SCADA Building Management System.

VES MAX units offer a selection of supply, extract and heat recovery permutations. Manufactured in controlled conditions at VES factories, incorporating the latest industry standard components, sourced from market leading specialists, ensuring finished quality at the highest standard.

The old inefficient units were disconnected from the mechanical and electrical services and removed from the roof. The new units were positioned onto the roof via crane, with a 70m radius located in the car park adjacent to the factory and re-connected to the existing ductwork and steam pipework.

Each unit was designed with 5no energy efficient direct drive EC plug fans, these consume less energy and are more hygienic than the old belt driven centrifugal arrangement, which required belt changes, to prevent deposits in the air stream.



*New air handling unit*



*Fitted control panel*



*VES were very helpful in ensuring the plant supply and installation they provided not only met the required specification but added additional benefits to our client using EC fan array. We were pleased with the services received from VES and look forward to working with them again on future projects.*

*Head of ME&I projects, [Space Engineering Services](#)*

## Results

The new air handling units were installed in the previous AHU's location and have been integrated with the existing SCADA BMS, for optimum efficiency. Remote interfaces were installed internally and connected to the AHU fitted control panels to allow the client to monitor and control the unit from an internal weatherproofed facility.

The client no longer needs to plan shutdowns to change belts on the old centrifugal fans or arrange any future crane lifts to accommodate fan replacements for the old 850kg fans.

Space Engineering Services were impressed with our attention to detail at quote stage, ensuring we provided the best value, whilst proposing solutions that other tendering contractors didn't suggest.