

# VES HVAC

## *projects*

- ▶f Energy upgrades
- ▶f Air handling unit refurbishment
- ▶f New installation
- ▶f Flat pack installation
- ▶f Air handling unit maintenance



**ENERGY  
EFFICIENT HVAC  
SOLUTIONS**



### *HVAC Projects*

*Utilising our expertise, to deliver the fastest  
bespoke HVAC solutions*

# VES HVAC projects

## Why choose VES?

VES has been supplying products and services to the HVAC industry for over 50 years, and has the in-depth knowledge and resources to provide solutions to all ventilation related requirements.

- ▶ A substantial British manufacturing company with over 200 employees.
- ▶ Full national coverage from regional offices and site engineers.
- ▶ Over 12,000 m<sup>2</sup> of manufacturing and storage space with full manufacturing and powder coating facilities.

Our HVAC engineering expertise allows us to facilitate energy improvement solutions for public, commercial and industrial buildings across the UK, creating lasting value and making a difference to occupants, building operation and the environmental impact.

Through our collaborative approach with our business and technology partners, we offer unique insights into our customers' needs which ensures consistent effective results that reduce spend and improve carbon footprints.

From initial enquiry to project completion, our dedicated sales, technical and project management teams are focused on delivering HVAC projects that deliver better air for the built environment. This process starts with an initial consultation to understand your requirements before our technical estimating team conduct an in-depth survey of the existing equipment to provide tailored proposals.



## VES HVAC projects

### Market sectors

VES provides services in all market sectors. Here are a number of projects we are actively engaged with across the company.

### Services

Through our collaborative approach with our business and technology partners, we offer unique insights into our customers' needs, delivering effective results that reduce spend and improve carbon footprints.

## VES brands

## HVAC projects process

Our innovative approach to support clients and improve sustainability



Consultation



Survey and validation

# Energy efficient HVAC solutions



## Retail

Working in partnership with Tesco PLC, VES have undertaken fan replacement projects saving Tesco over 3.9GW in energy.



## Kitchen

Our knowledge of current regulations DW144/TR19 and specifically our T-Line extract unit from our product range allow us to provide complete kitchen ventilation solutions.



## Healthcare

VES have worked with many NHS hospitals throughout the UK, carrying out simple refurbishment tasks to full turnkey HTM-03 compliant AHU replacement projects.



## Commercial

Our innovative approach allows VES to provide full solutions within the commercial sector to improve carbon footprint and life expectancy of their existing assets.



## Industrial

Our in-depth knowledge of ventilation allows us to provide bespoke HVAC solutions to overcome specific site issues for a variety industrial processes.



## Leisure

Our bespoke swimming pool AHU design from our MAX range allows VES to provide full turnkey solutions to suit issues that arise from the warm humid environment of a pool hall.



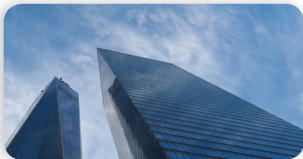
## Education

Working in partnership with consultants throughout the UK by designing specific solutions to comply with BB93. Our broad product range allows VES to put together a full ventilation package for new schools, colleges and universities.



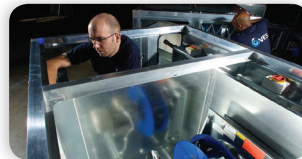
## Data centres

Maintaining conditions within data centres is critical to business operation, our expertise allows us to design, supply and install bespoke solutions to meet the specific requirements.



## Energy upgrades

Our HVAC engineering expertise allows us to facilitate energy improvement solutions for public, commercial and industrial buildings across the UK, building operation and the environmental impact. [Read more - p.4](#)



## Air handling unit refurbishment

VES have been refurbishing all types of air handling units for over 25 years. The components typically replaced are dampers, coils, fans and motors. [Read more - p.5](#)



## New installation

Our established industry leading product portfolio allows VES to deliver full supply and installation projects for a variety of sectors, including offices, hotels, retail and schools. [Read more - p.6](#)



## Flat pack

New and existing buildings often have limited access routes for new equipment. VES are able to flatpack the largest ErP compliant heat recovery air handling units offering full restricted access solutions to clients across the UK. [Read more - p.7](#)



Business case



Project implementation



Data validation



Handover



# VES HVAC projects

## Energy upgrades

Ventilation accounts for around 30% of heat loss in most commercial buildings according to the Carbon Trust. Working with VES project managers, site teams and local engineers, there are efficient upgrades and complete energy efficient ventilation solutions available to combat this.

## Features and benefits

- ▶f Improve carbon footprint
- ▶f Extends life of existing equipment
- ▶f Easy to maintain
- ▶f Return on investment
- ▶f Improved control capabilities



## Aberdeen Business School - Case study

### Delivering system improvements and identifying and implementing exceptional energy savings

Leading ventilation manufacturer VES were approached by CBRE to reduce energy consumption and extend the lifespan of Aberdeen Business School's existing air handling units as part of the University energy funded project.

VES carried out a full technical survey and were able to implement exceptional energy saving initiatives. Due to the limited access and time available, refurbishment was the most suitable and cost-effective solution for the client. Using the latest EC plug fan technology, VES successfully increased the life expectancy of the units and reduced energy consumption. In addition, a controls strategy was integrated into the HVAC solution, to meet the demand ventilation requirements for different zones within the building.

By taking pre/post readings of the operating conditions of the fans, VES were able to collect the estimated savings achieved by the system improvements and replacements and present annual payback calculations. This has resulted in an estimated 57% annual saving on running costs.

VES are now looking into implementing the solution into other key areas of the building/campus. An Energy Consultant from CBRE quoted,

***“A 57% reduction in fan motor load at 100% power is impressive and in excess of my expectation. I will definitely be recommending AHU refurbishment rather than replacement wherever possible.”***



Aberdeen Business School

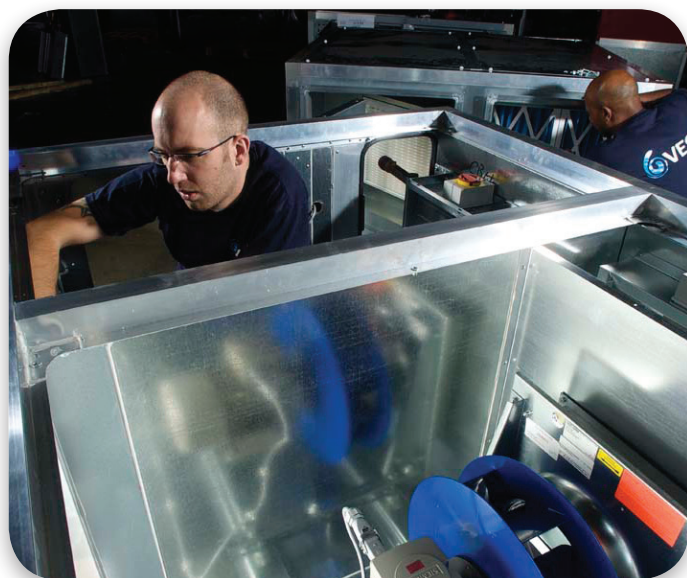


Plantroom



Installed EC fan

## AHU refurbishment



VES are recognised as market leaders in comprehensive air handling unit refurbishment solutions with 50 years in the HVAC industry and 25 years refurbishing any make or model of air handling equipment.

### Features and benefits

- ▶ f Improved air quality
- ▶ f Extends life of existing equipment
- ▶ f Minimal site disruption
- ▶ f Improved reliability
- ▶ f Increased performance and energy efficiency

## CBRE British Airways - Case Study

### Helping achieve 608,328 kW energy savings at London Heathrow.

Working with CBRE, VES helped achieve energy savings at London Heathrow by completing two projects;

BA's old units had large out-dated metal impellers connected to a belt driven motor, which was very inefficient. The old units required a high level of maintenance and were experiencing clear losses of up to 20%.

BA's flight training centre was relocated from Cranebank to their new home in Technical Block A, a listed building and home of the mighty A380 Airbus. As a result the chiller load demand had now completely changed.

VES surveyed the sites and suggested two alternative suggestions.

- AHU fan upgrade using 98% efficient direct drive electronically commutated (EC) motor technology
- Chiller re-utilisation to new site location, reducing operational hours of the ammonia chiller, thus reducing associated maintenance.

The two projects generated a 35% saving, including £54,754 annual project costs, a 608,328kW energy saving and a 2.8 year payback. Several VES air handling units, manufactured between 1988-1990, are still being used on this site today, to feed state-of-the-art flight simulators.



CBRE British Airways



Chiller re-installation



Refurbished chiller



# VES HVAC projects

## New installation

Our established industry leading product portfolio allows VES to deliver full supply and installation projects for a variety of sectors, including offices, hotels, retail and schools

### Features and benefits

- ▶f Increased performance
- ▶f Compliance with latest regulations
- ▶f Complete turnkey solutions
- ▶f Improved building operation and carbon footprint
- ▶f Improved indoor air quality



## Food production facility - Case study

### Replacement of two bespoke 18m<sup>3</sup>/s supply air handling units complete with fitted controls

VES were asked by Space Engineering 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 units were fitted with high grade filtration, adopting a similar specification to the existing units serving the space.

The simplest and most cost-effective solution was to remove the redundant units and replace with new units, utilising an energy efficient EC fan array. The old units were removed, and the new units positioned via crane from the car park adjacent to the factory. Each unit has 5no direct drive EC plug fans which consume less energy and is more hygienic than the old belt driven centrifugal fan arrangement which required regular belt changes, to prevent deposits in the air stream. 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.

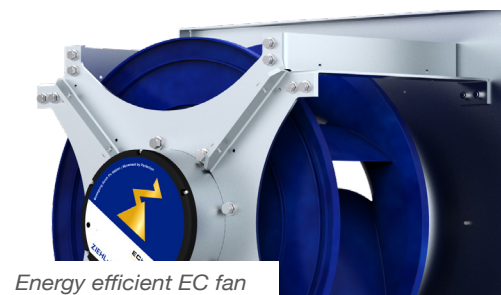
***"VES were very helpful in ensuring the plant supply and installation they provided not only met the required specification but added additional benefits to our client using an EC Fan array. We were pleased with the service received from VES and look forward to working with them again on future projects."***



EC fan array



New AHU



Energy efficient EC fan

## Flat pack



New and existing buildings often have limited access routes for new equipment. VES are able to flatpack the largest ErP compliant heat recovery air handling units offering full restricted access solutions to clients across the UK.

### Features and benefits

- ▶f Avoid expensive crane costs and road closures
- ▶f Minimise disruption on site
- ▶f Confidence in performance
- ▶f Assistance for contractors and consultants
- ▶f Negate requirement for builder's work

## West Berkshire Council - Case study

### Installation of a flat pack heat recovery AHU with restricted site access

Working with DOC Building facilities Ltd (Degrees of Comfort) at West Berkshire Council offices, VES manufactured and installed a bespoke, ErP compliant, air handling unit with heat recovery, flat packed to suit on-site space restrictions.

The restricted access challenge was overcome through designing and building a bespoke flat packed air handling unit at VES HQ, which was then delivered and re-built from component format on site. The unit re-build was completed in line with the project programme and to the customer's satisfaction.

West Berkshire Council now have an ErP 2018 compliant heat recovery air handling unit achieving design and providing improved indoor air quality to the offices.

Degrees of Comfort were very happy with the work undertaken by the VES team and intend to use VES again for future projects. The company's Director quoted,

***"The VES team were very responsive to the project due to the time constraints. They completed the site visit and provided a solution to this challenging installation."***

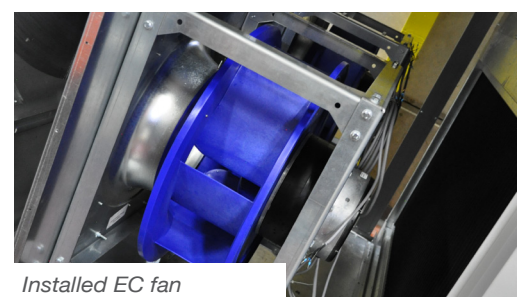
***The whole process was extremely efficient, with excellent communication and design proposals. The AHU was delivered and installed on time, it was great credit to VES, and their level of customer service could not be faulted on this project."***



Restrictive access



New AHU installation



Installed EC fan



## VES offer a range of air handling units to suit any application

### Heat recovery

*Premium efficiency heat recovery with low SFPs and low energy /high efficiency fans.*

### Supply

*Premium efficiency low noise supply units with low SFPs to achieve L2 building regulations.*

### Extract

*Premium efficiency extract units with low SFPs to achieve L2 building regulations.*

### Roof

*Premium efficiency low profile extract roof units, with the latest EC fan technology.*

### Heating

*Duct mounted heater batteries, with optional heat recovery.*

### Bespoke ventilation

*Customer driven bespoke air handling units.*



#### VES Head Office

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VES reserves the right to amend product specifications and details without notice.