Better air for the built environment

Luton and Dunstable Hospital

Case study

Upgrading existing air handling units inline with HTM 03-01 regulations

Luton and Dunstable Hospital Estates approached VES, market leaders and specialists in healthcare premises ventilation, to increase the life expectancy of their many air handling units within the hospital estate. This has resulted in improved patient comfort, HTM 03-01 compliance, as well as diluting and preventing microbiological growth.

Client	Luton and Dunstable Hospital
Sector	Healthcare
Challenge	Limited working hours due to planned shut down periods
Success	To be able to refurbish the AHUs based on a phased approach to HTM 03-01 specification

Challenge

Health Technical Memoranda (HTM) gives comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare. The focus of Health Technical Memorandum guidance remains on healthcare-specific elements of standards, policies and up-to-date established best practice.

Installing the most appropriate ventilation solution is critical to the operations of the hospital environment. The AHUs in the theatre and surgical block at Luton and Dunstable University Hospital were deteriorating and non-compliant with current HTM 03-01 standards.

VES were approached to increase the life span and condition of Luton and Dunstable Hospital existing plant bringing the AHUs in line with current regulations under a specified budget and timeframe. Located deep within difficult to access plantroom areas, the existing air handling units presented space and access issues in bringing many components up to date. Working to suit the hospital timescales was also a challenge of the project as there was only limited shutdown available in different areas, as units serve critical areas.

Belt driven fan

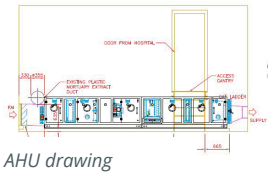
Disintegrated aluminium fins

Solution

VES undertook a full site survey for the client to ensure all requirements of the specification could be met. As a result, VES provided customer insight into the specific decision making on refurbishment or replacement and advised refurbishing one of the existing AHUs to almost new again, increasing the life span of the AHUs up to a further 20 years.

The project included replacing frost coils with new bare tube copper coils and upgrading the belt driven fans and motors to new direct drive EC plug fans.

Working in conjunction with Luton and Dunstable Hospital's available shutdowns within different areas, VES were able to refurbish the AHUs based on a phased approach to HTM 03-01 specification. Replacement of all AHUs which fell beyond economical repair was also undertaken in this scope where required. All new AHUs installed use the latest EC fan technology to ensure high energy efficiency and minimal maintenance requirements and were HTM compliant in all required areas. Critical spare fans were supplied in the unlikely event of failure, that can be swapped out quickly for on-site engineers.



AHU drawing

EC plug fan

Unit installed on site

> *Installing the most appropriate ventilation solution is critical to the operations of the hospital environment.*

Results

Refurbishment of the existing AHUs proved very successful, as well as the installation of the new AHU. The unit alterations were designed to full HTM 03-01 compliance as well as encompassing site logistic restrictions from limited space to minimal shutdowns.

Not only was the client very satisfied with the proposed solution, VES also ensured we kept to the strict budgets and timescales to deliver on this project.

As a result of the service and works delivered by VES, Luton and Dunstable Hospital have agreed further works programmes, working directly with the business to deliver further solutions and improvements. VES now work directly with the Estates Trust to ensure a full turnkey solution is available, from consultation to installation.