

# HALO HVAC

Case Study

## AHU Refurbishment

Commercial Offices.

St Pancras & Somers Town, London.



## The challenge...

The client is dedicated to achieving net zero and is cutting carbon emissions by removing on-site gas-fired boilers, aligning with sustainability goals, and marking a major shift towards an eco-friendly operational model.

Attention was given to the ventilation system to maintain a comfortable working environment without compromising heating capacity. Balancing sustainability with employee comfort became a focal point, ensuring the revised heating infrastructure met both environmental and operational requirements.

HALO HVAC adjusted ventilation and heating design based on occupancy levels, adopting new DX heat pump technology for efficient temperature management. The AHU was remodelled to accommodate the new efficiency objectives. A shift towards more effective heating and cooling solutions.

The HALO HVAC initiative showcased a holistic approach to sustainability, addressing energy efficiency and employee well-being. This not only aligns with environmental standards but also positions the organization as a leader in responsible business practices.

# The HALO HVAC solution

## 1 AHU remodelling

The existing AHU layout proved inadequate for accommodating the new components, particularly with restricted access to the fresh air intake section. Our engineers undertook a remodelling of the AHU to optimize its layout, ensuring compatibility with the new, more efficient design, new EHB coils, filtration, and framework.

## 2 New EHB, DX Heat Pump, and Filters

The installation of the new electric heater battery and DX heat pump coil necessitated modifications to the existing AHU casework, tailored to accommodate updated design parameters and airflow requirements. New ISO 16890 compliant filters were installed upon completion.

## 3 Corrosion Treatment

The existing AHU had experienced corrosion on its internal surfaces. Our team meticulously addressed this issue by sanding down the rust, removing loose debris through vacuuming, and applying a rust treatment to the unit. This proactive approach was taken to significantly prolong the AHU's operational lifespan.

## 4 An outstanding project delivery ☆☆☆☆☆

In just one working day on-site, HALO HVAC executed a comprehensive removal of all existing components followed by the swift installation of new equipment. This streamlined process included the efficient removal of redundant materials, facilitating the completion of final connections and commissioning without delay.



## AHU Remodelling

Recognizing the need for a comprehensive solution, our team of engineers conducted an intrusive technical survey, assessing the existing infrastructure and identifying critical areas for improvement.

The inadequacies of the existing AHU layout became apparent when faced with the challenge of accommodating new components, especially given the restricted access to the fresh air intake section.

We proceeded to remove three coils and one attenuator, preparing the AHU for the installation of a new DX heat pump coil and an Electric Heater Battery (EHB).

Through careful planning and strategic adjustments guided by the insights gained from our survey, HALO HVAC optimized the AHU layout to seamlessly integrate the new components while maintaining efficient functionality.

[www.halohvac.co.uk/case-studies](http://www.halohvac.co.uk/case-studies) for more before and after photos.



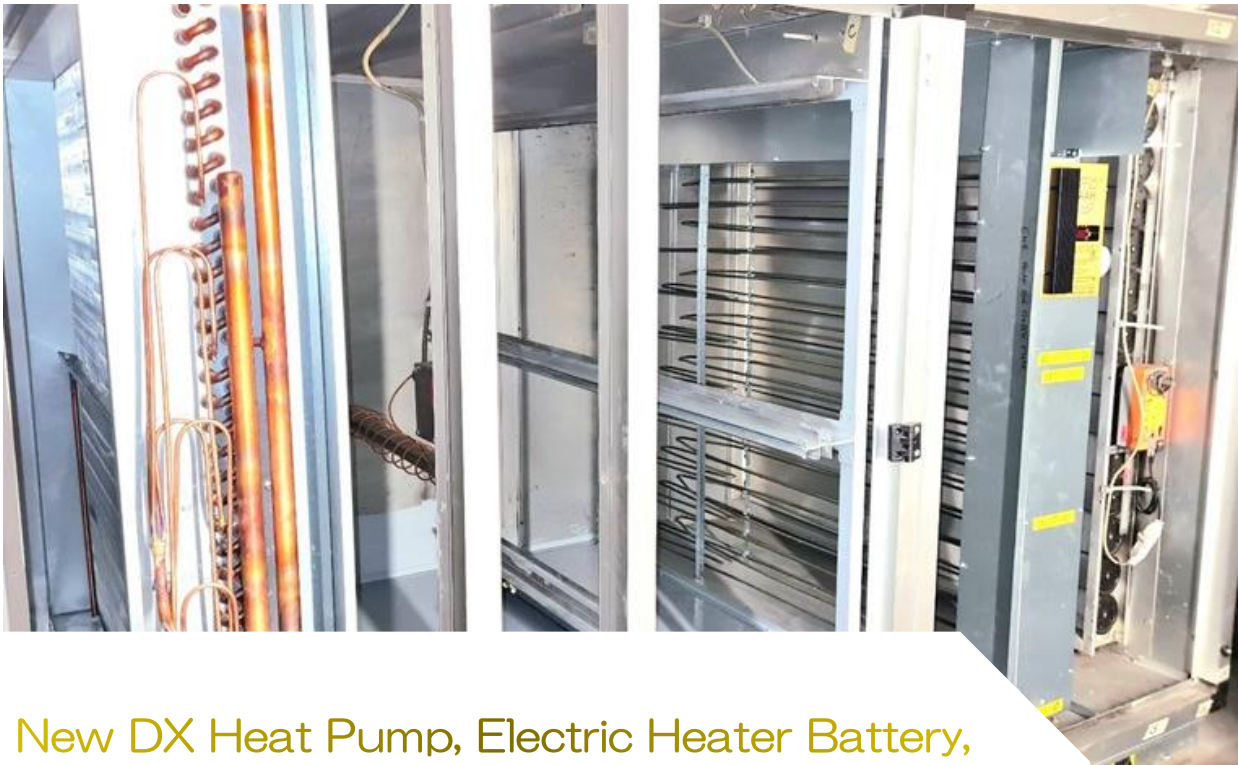
Energy Saving



Life cycle improved



Reliability



## New DX Heat Pump, Electric Heater Battery, and Filters

The installation of the new electric heater battery and DX heat pump coil represented a pivotal step in enhancing the functionality and efficiency of the existing AHU system.

These involved adjustments tailored to accommodate the updated design parameters and airflow requirements, ensuring optimal performance and compatibility with the new technology.

Furthermore, recognizing the importance of air quality in indoor environments, we ensured that the installation was accompanied by the incorporation of new ISO 16890 compliant filters. These state-of-the-art filters are designed to meet rigorous standards for air filtration, enhancing the AHU's ability to maintain clean and healthy indoor air.

Through our diligent efforts in modifying the AHU casework and implementing advanced filtration technology, we not only successfully integrated the new components but also elevated the overall performance and reliability of the system. This comprehensive approach reflects our commitment to delivering sustainable, high-quality solutions that prioritize both functionality and indoor air quality.



Improved IAQ



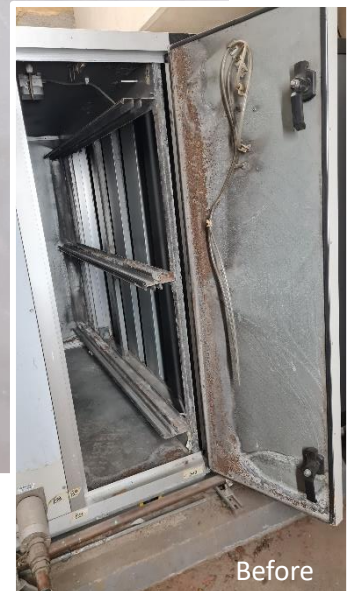
Reliability



Efficiency



After



Before

## Corrosion Treatment

The discovery of corrosion on the internal surfaces of the existing AHU presented a critical maintenance challenge that demanded immediate attention.

Our technicians commenced the process by carefully sanding down the areas affected by rust, ensuring thorough removal of all corroded material. Following the sanding process, vacuuming equipment was utilized to eliminate any loose debris or contaminants, guaranteeing a clean and debris-free environment within the unit.

With the AHU's surfaces prepared, our team proceeded to apply a high-quality rust treatment solution. This specialized treatment not only halted the progression of existing corrosion but also provided a protective barrier against future oxidation, safeguarding the AHU's structural integrity over the long term. Where necessary fabrication was performed with new materials.

This proactive approach to addressing corrosion not only mitigated immediate concerns but also served to significantly prolong the AHU's operational lifespan.



Complete Solution



Life cycle improved



Decrease in Costs



## An Outstanding Project Delivery

Following weeks of thorough planning by the HALO HVAC Projects team, the seamless execution of mechanical and electrical tasks transpired within a single day.

This encompassed the efficient delivery of all new components and the removal of redundant materials. Despite the project's expedited timeline, it was executed without any health and safety concerns, ensuring zero downtime and minimal disruption to the client's use of the building.

We stand out by expertly coordinating project deliveries, demonstrating unmatched precision and efficiency in the HVAC industry. As a testament to our commitment, we provide comprehensive after-sales care for every project we undertake.

The client committed to net zero, eliminating gas-fired boilers for carbon reduction. The HVAC system, now based on DX heat pump technology, ensures comfort while meeting sustainability goals. HALO HVAC's holistic approach positions our organization as a leader in responsible business practices.



100% Health & Safety



Zero Disruption



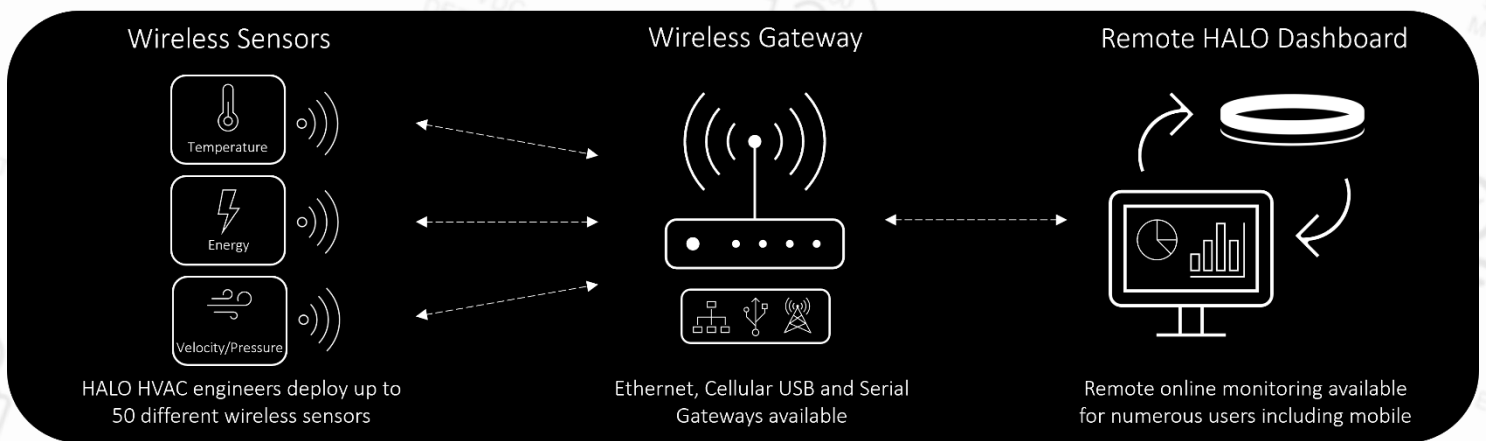
Delivered on Time



# HALO HVAC

WIRELESS IOT SENSORS

With our range of wireless sensors and secure internet gateways, we enable you to intelligently monitor and control the performance of Air Handling Units.



Our wireless sensors and secure internet gateways notify you about abnormal HVAC events, energy use and temperatures, system degradation, humidity, air pollutants, air pressure, water, vibration, velocity, motion, security & much more. We tell you the exact energy consumption in kWh of each individual component of your HVAC system, in real time or over a period, remotely.

To learn more visit [www.halohvac.co.uk](http://www.halohvac.co.uk)







# HALO HVAC


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