

Case Study

AHU Refurbishment

Five Star Hotel. Knightsbridge, London.



The challenge...

The belt driven fans within the air handling units at a prestigious 5-star hotel in Central London had failed, resulting in no ventilation to several areas of the building which included the toilets and the kitchen.

It was imperative that the ventilation was reinstated in these areas as a matter of urgency to ensure the Hotel was fully operational.

The air handling units were installed on a mezzanine floor within a basement plant room.

The access route to the AHUs was problematic with our engineers requiring the use of specialist lifting equipment to offload and position the new components up onto the mezzanine floor.

The HALO HVAC solution

1 Fan upgrade & AHU remodelling

Higher efficiencies therefore significant energy & CO₂e savings, with no maintainable components such as belts and pulleys.

2 Lower noise

With AHU remodelling and the new fans proven psychoacoustics, the AHU now generates less noise thanks to better flow conditions.

3 New high-efficiency filtration system

Improved Indoor Air Quality.

4 Project delivery ★★★★★

Hotels operate 24/7 therefore we had to deliver this project with minimal disruption. We completed all works in 12 hours.

5 Energy Saving Report

Learn what the total amount of CO₂e reduced was by implementing the Halo HVAC solution for this project.



Fan Upgrade & AHU Remodelling

Prior to installation Halo HVAC validated all technical aspects of the system, designed structural modifications of the AHU, along with Internal-rotor motor PM/EC technology that boasts an efficiency of IE6, exceeding motor energy efficiency classes set by both the International Electrotechnical Commission and European Efficiency.

The new maintenance-free fans were installed into the Air Handling Units. Along with bespoke manufactured reinforced bulk heads and fan openings for a seamless installation.

This combines three solutions in a way that previously seemed almost impossible: Reliability, outstanding system efficiency with high-power density for environmental control and 15-20-year extended life cycle for each AHU.

www.halohvac.co.uk/case-studies for GoPro footage of this and other fan installations.



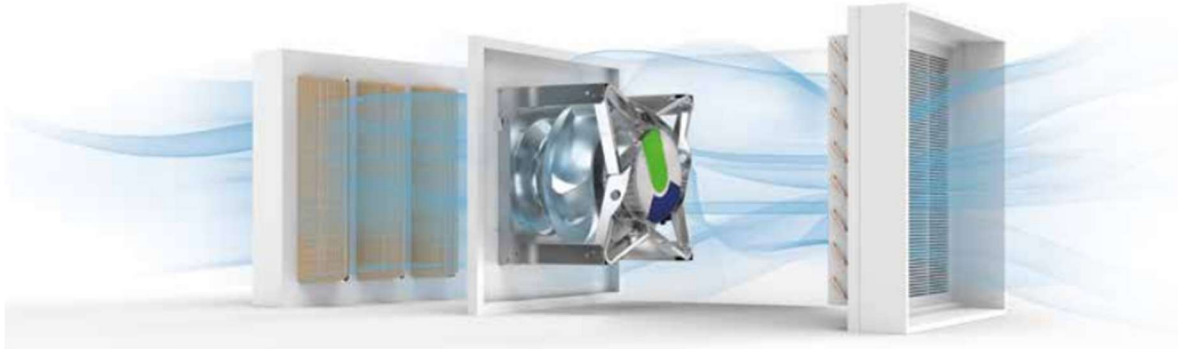
Energy Saving



Life cycle improved



Reliability



Lower Noise

When we begin the strategic design of a new fan system, our engineers design it so that the fan speed, and the vibration caused by the rotational speed, does not cause the system to operate in a region of resonance, we achieve this through the calculation of the systems overall psychoacoustics.

With this project being a five-star hotel, peace and quiet is one certainty the guests want to experience. The result with our installation achieved a reduction of 7 dB(A) LpA. This was enabled thanks to upgrading the fans to a new system that uses no belts or pulleys with better air flow conditions, new reinforced fan bulk heads for less vibration, new anti-leak seals, and the use of noise reducing baffle and separation plates.



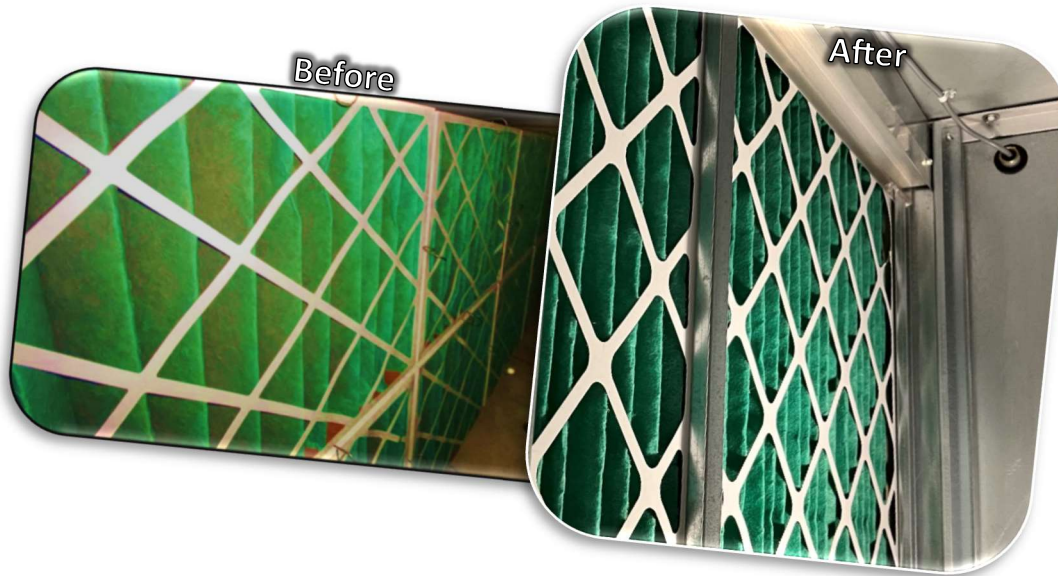
Reduced Noise



Guest Retention



Increased Bookings



New high-efficiency filtration system – Improved IAQ

Although we have been known to utilise IAQ technologies such as UVGI, ionic and ozone treatment, to improve indoor air quality (IAQ). Considering the nature of this five-star hotels function, the likelihood of potential side-effects and down time is much lower with a suitably designed and maintained high-efficiency filtration system.

The system we developed and installed has ease and simplicity of maintenance at the forefront. We installed a new high-quality air filtration system designed to effectively capture and remove airborne contaminants. To ensure the hotels deep commitment to holistic wellness of all staff and guests, the new filtration system is compliant to ISO 16890-1:2016, EN 779:2012, DIN 53438-3 (F1) and OEKO-TEX® 100.

With Halo HVAC IOT it is possible to continuously remote monitor IAQ and accurately adjust based on live data to guarantee a consistent maintenance schedule.



Improved IAQ



Remote Monitoring for PPM



Well-being



Project Delivery ★★★★★

Hotels operate 24/7 therefore we had to deliver this project with minimal disruption. We completed all works in 12 hours.

Ensuring safety, compliance, and risk mitigation to support an impeccable project delivery. This process enabled us to maximise on site time and guarantee the health and safety of everyone throughout the entirety of this project.

HALO HVAC Ltd has passed industry leading conformity and compliance testing, verification, and inspection. Our accreditations highlight our technical competences, reliability, and integrity to provide confidence and trust to deliver our services. We hold insurances for Contractors All Risk, Professional Indemnity, Employer Liability, Public and Product Liability, and Contract Works. Halo HVAC Ltd are members of the following.



100% Health & Safety



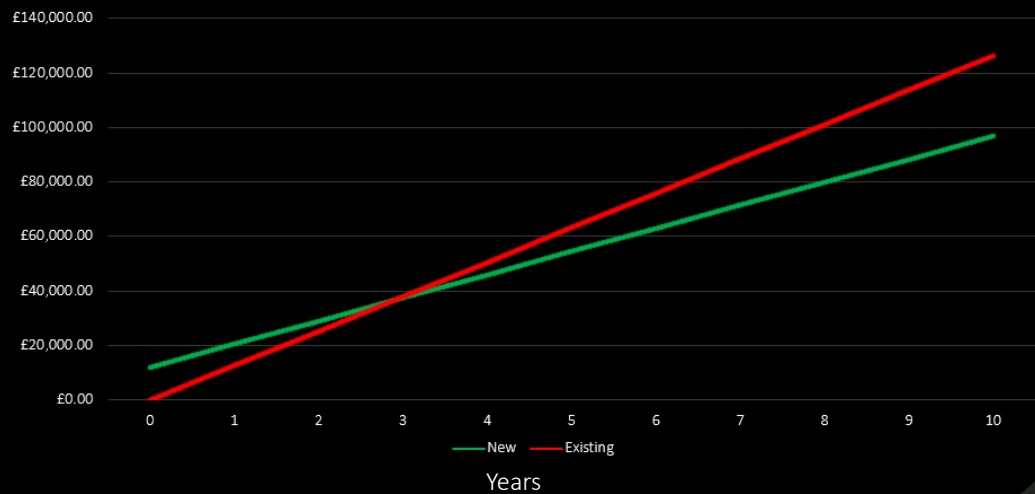
Zero Disruption



Delivered on Time

Energy Saving Report

Running Cost



Equivalent CO₂e reduction to taking 2 new diesel cars off the road, that each travel over 7600 miles a year, every year.

3 tonnes

The total amount of CO₂e reduced by implementing the Halo HVAC solution is fourteen and a half tonnes!

137 trees

The equivalent to 137 fully grown trees absorbing their average of 21Kg of CO₂ a year.



2.6 years

By implementing the HALO HVAC solution, the estimated return on investment for the end client is 2.6 years.

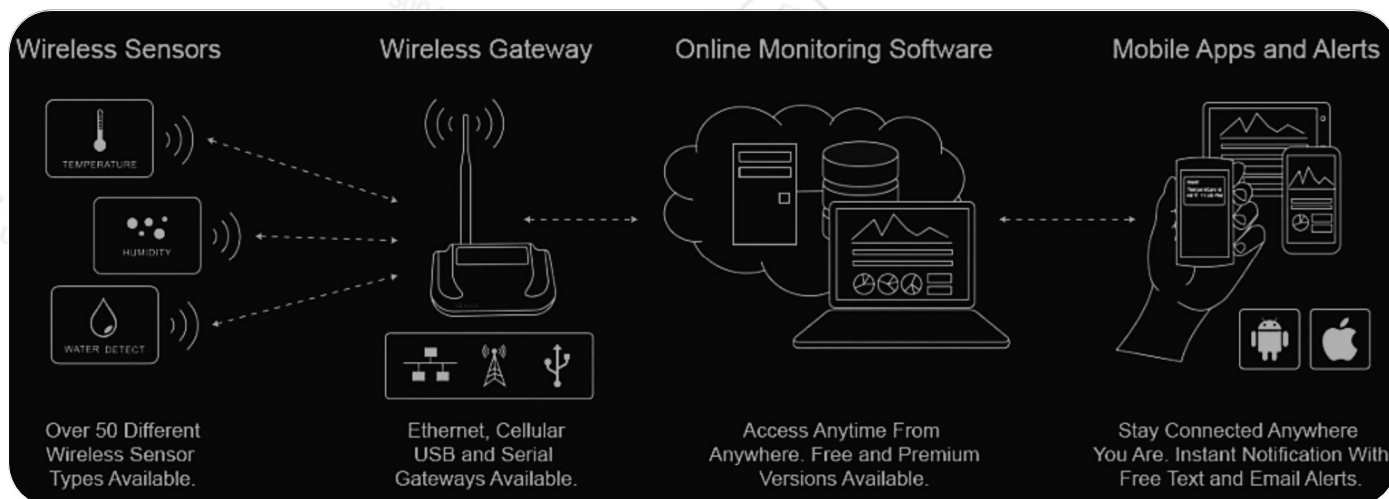




HALO HVAC

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





HALO HVAC

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