

CASE STUDY Military Air Base, UK - Bespoke DUOVENT

Bespoke AHU solution with UV-C purification and DCV delivers optimal IAQ for military-grade performance and safety

WWW.SOLERPALAU.CO.UK

Situation

This project presented several complex IAQ challenges:

- Operating in a sealed, high-security environment with no natural ventilation.
- High variability in occupancy, requiring responsive IAQ management.
- The need to protect sensitive data equipment from humidity and airborne contaminants.
- Infection prevention measures, particularly in light of COVID-19 and the need for resilient operational continuity.

Off-the-shelf systems were unable to meet these requirements, prompting the need for a custom-engineered approach.

“

“When no standard product could meet the project's specific requirements, the team at NBS didn't compromise – they partnered with S&P and Elgin Bay to engineer a bespoke ventilation solution that delivered exceptional indoor air quality and environmental control. Their commitment to performance and innovation truly set them apart.”

Joe Noquet

Managing Director, NBS

Solution

S&P UK Ventilation Systems coordinated a fully bespoke air handling system, supported by the expertise of Elgin Bay and Noquet Building Services (NBS). Key solutions included:

- Duovent Bespoke Design AHU: Engineered by S&P UK Ventilation Systems to meet precise environmental and airflow specifications.
- Demand-Controlled Ventilation (DCV): Integrated to maintain optimal CO₂ levels based on occupancy, enhancing cognitive function and indoor comfort.
- Elgin Bay UV-C and Ozone Systems: Installed within a specially designed chamber to eliminate 99.99% of airborne viruses and bacteria (Log 4), providing a sterile environment for military personnel.
- RHEs (Rotary Heat Exchangers): For high-efficiency energy recovery and climate stability.
- Advanced Humidification Control: To ensure a balanced environment for both people and equipment.

S&P UK's proactive design approach allowed for seamless off-site coordination and installation, reducing disruption within the secure facility.



Benefits

The project delivered a future-resilient, health-centric indoor environment. Outcomes include:

- Enhanced environmental control, contributing to a safer, more productive working space.
- Continuous operability of the facility under pandemic conditions, with built-in infection prevention.
- Improved wellbeing and performance for occupants via stable temperature, humidity, and air quality conditions.
- Long-term operational efficiency and reduced maintenance disruption due to the off-site assembly strategy.



Air
Handling



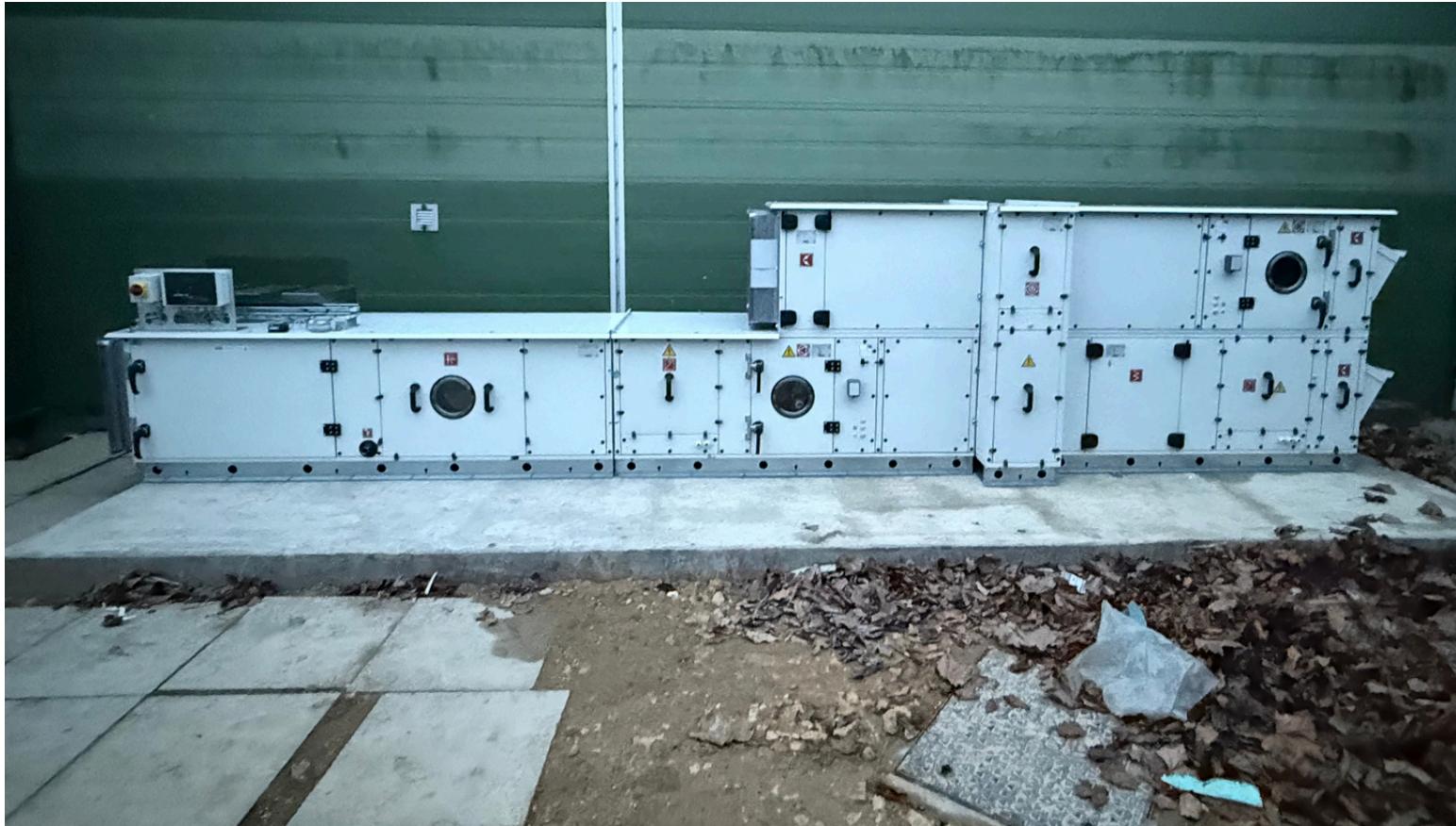
Heat
Recovery



Inline
Duct



Acoustic
Fans



“

This project demonstrates how tailored design and advanced air quality technologies can overcome the limitations of standard systems. Our bespoke AHU, combined with specialist filtration and sterilisation, delivered exceptional IAQ in a building with no natural ventilation—ensuring comfort, compliance, and continuity in a high-stakes environment

Lee Page

Sales Director, S&P UK Ventilation Systems



Interested in discussing these projects further or exploring potential opportunities? Reach out to Lee Page, Sales Director

Contact Lee here: Lpage@solerpalau.com
07827 289106