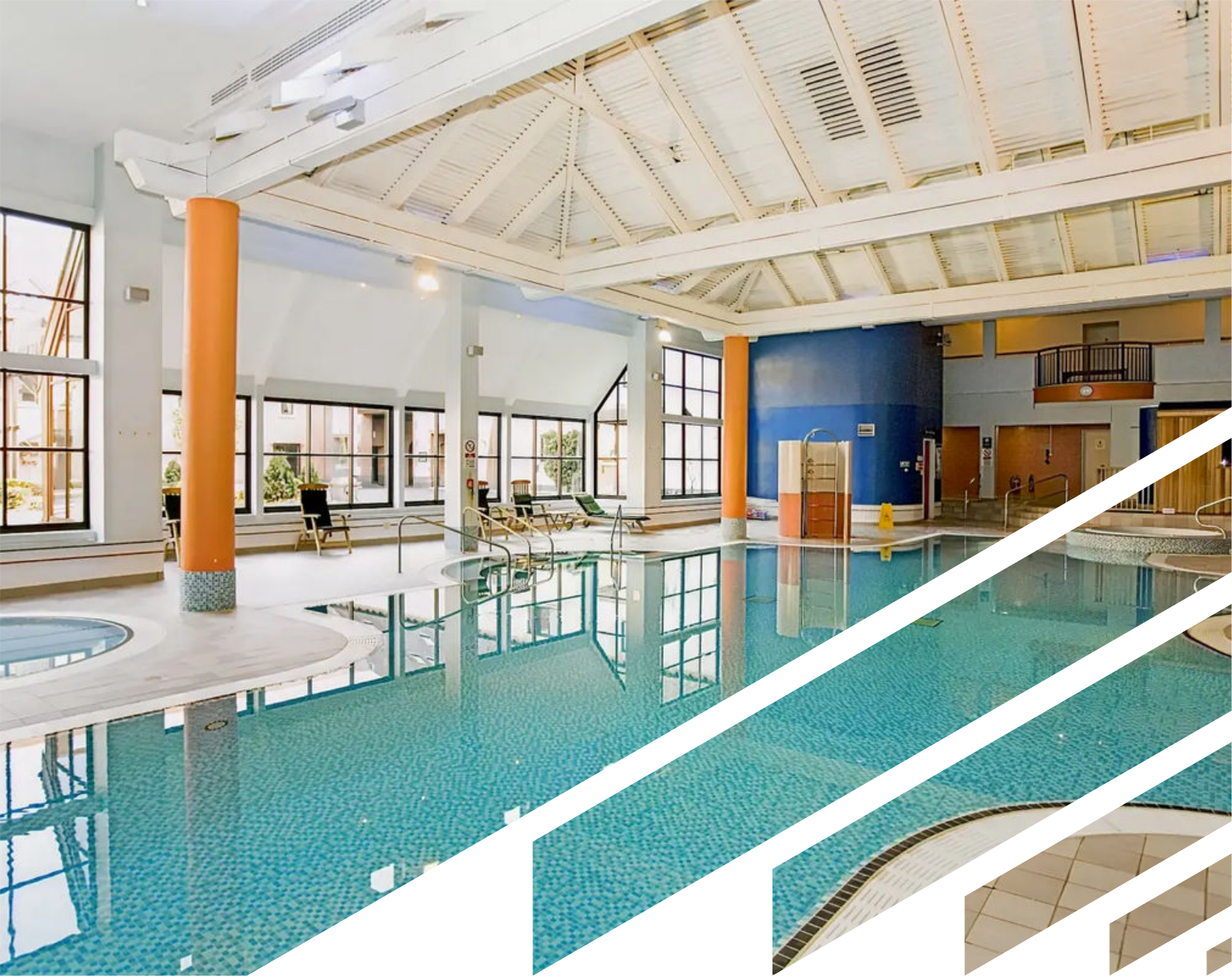
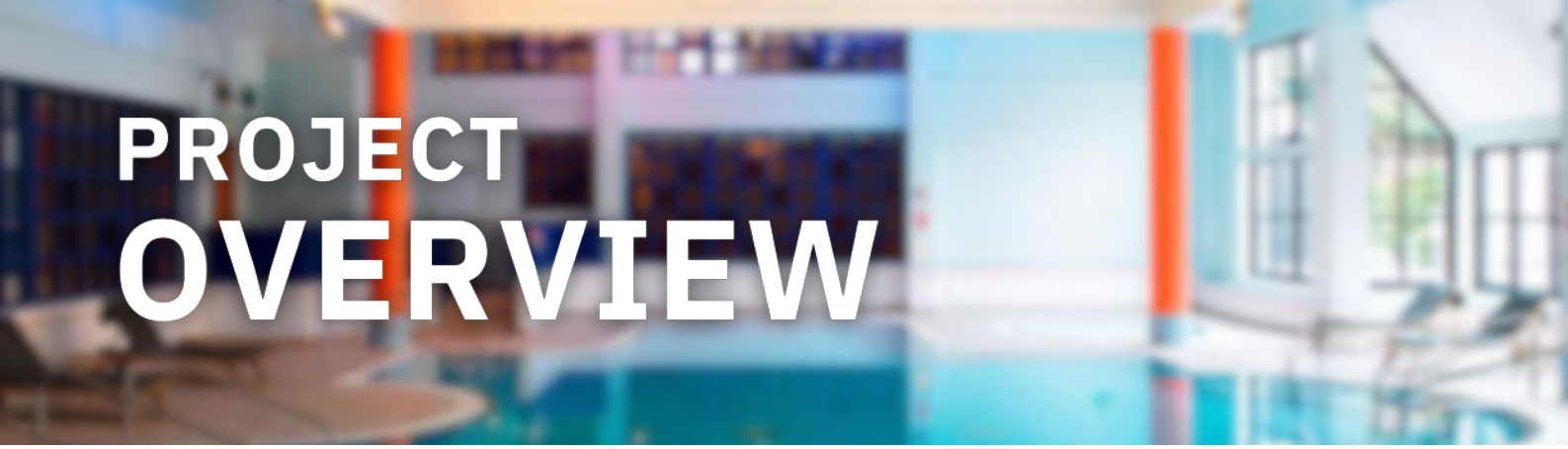


FOREST OF ARDEN SWIMMING POOL

VENTILATION TROUBLESHOOTING & SOLUTIONS

BVS

Building Ventilation Solutions



PROJECT OVERVIEW

PROJECT OVERVIEW

The project involved the validation and surveying of the Air-Handling Unit (AHU) serving the swimming pool hall. The AHU, installed three years ago, was responsible for supplying and extracting air to maintain a temperature of approximately 31°C. However, the client reported that the maximum temperature achieved since the installation of the AHU was only around 24°C.

The investigation covered various aspects of the installation, including air volumes, temperatures, ductwork layout, and air distribution system.he case study highlighted the issues affecting the swimming pool hall's air temperature and proposed a range of measures to address them.

By improving the AHU performance, rectifying ductwork leaks, enhancing air distribution, and considering additional heating coil options, it was anticipated that the desired temperature could be achieved. These recommendations aimed to optimise the AHU system, ensuring a comfortable and efficient environment for the swimming pool hall.

PROJECT ISSUES

AHU ISSUES:

The project involved the validation and surveying of the Air-Handling Unit (AHU) serving the swimming pool hall. The AHU, installed three years ago, was responsible for supplying and extracting air to maintain a temperature of approximately 31°C. However, the client reported that the maximum temperature achieved since the installation of the AHU was only around 24°C.

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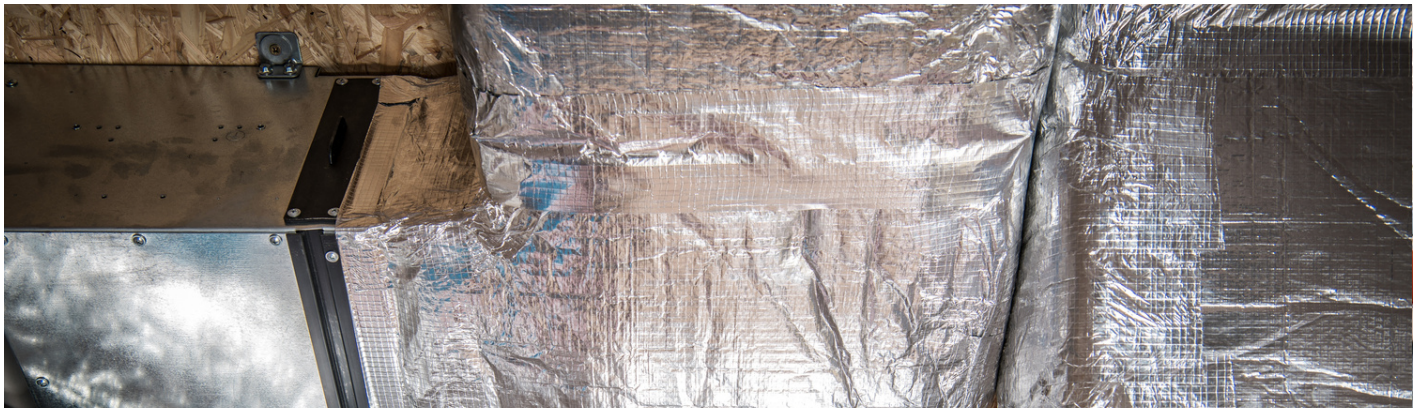
DUCTWORK ISSUES:

- The existing galvanised ductwork, around 30 years old, showed significant leaks, resulting in pressure drops and air loss.
- High-level slot diffusers used for air distribution were inadequate, with velocities measuring around 1m/s, insufficient for effectively moving warm air downwards.



PROJECT IMPROVEMENTS

AHU IMPROVEMENTS:

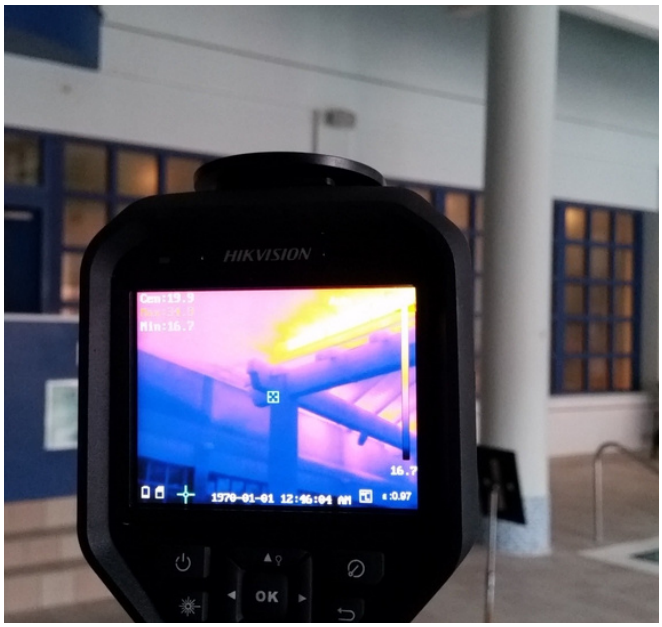
- Relocate the fan on its bulkhead away from the heating coil to improve airflow.
- Install a baffle after the heating coil to distribute air more evenly.
- Swap the supply fan access door with the service door to improve maintenance access.
- Fit a mesh guard on the silencer inlet to prevent vermin ingress.

CONTROL PANEL REPLACEMENT:

- Replace the keypad on the previous control panel to enable higher air volume operation.

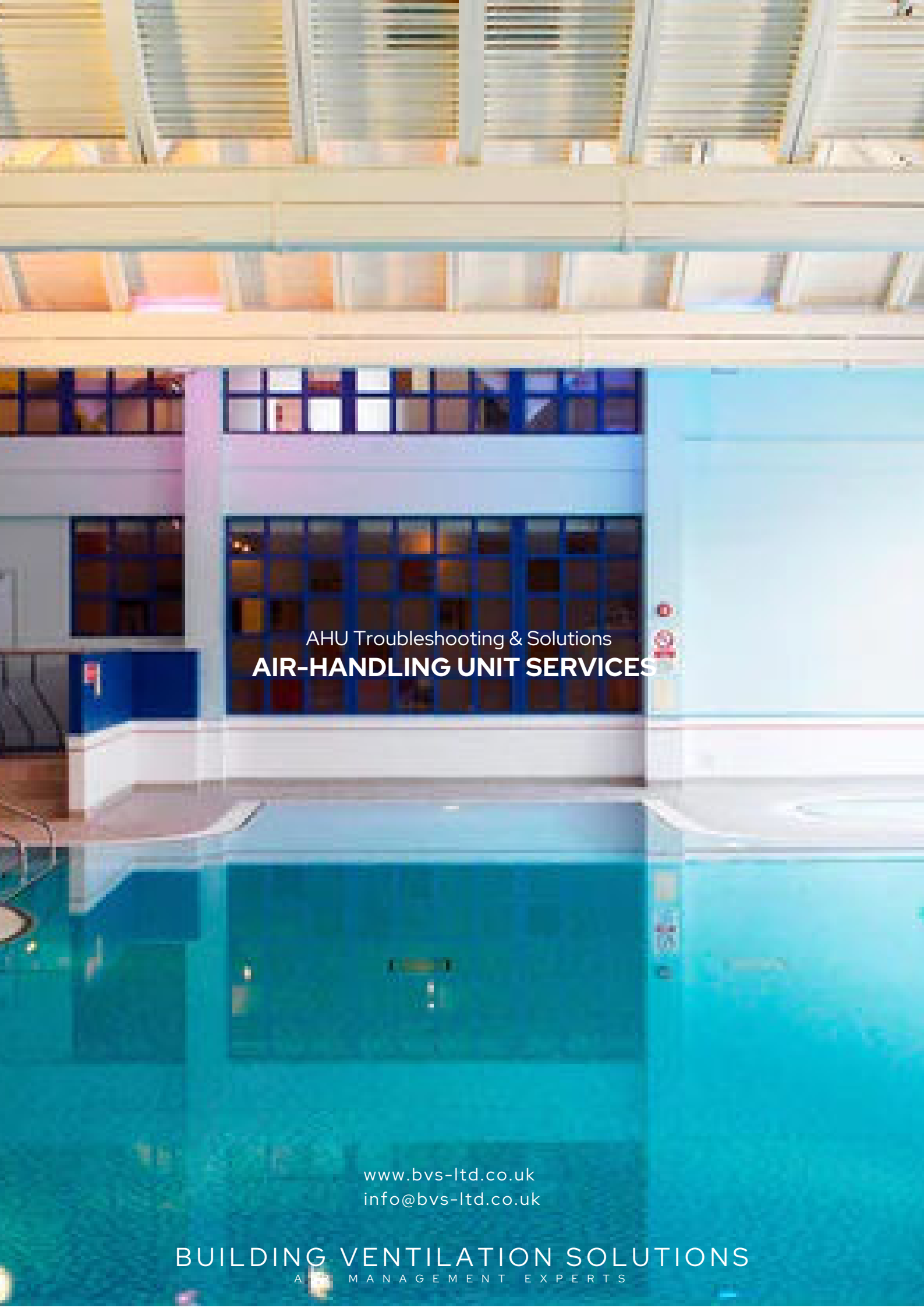
DUCTWORK ISSUES:

- Modify the linear slot diffusers to improve velocity and directional airflow.



AIR DISTRIBUTION ENHANCEMENT:

- Modify the linear slot diffusers to improve velocity and directional airflow.



AHU Troubleshooting & Solutions

AIR-HANDLING UNIT SERVICES

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AIR MANAGEMENT EXPERTS