



ACP AIRCONDITIONING

The Problem

The Client had to locate the Supply / Extract AHU serving the main **Lecture Theatre** in a restricted basement plantroom area. The AHU was to be located against a plantroom wall so all **service access** had to be arranged **from one side**.

Heat recovery was required during winter operation and cooling would be necessary in summer conditions to provide tempered air. Also, because of the Unit location near the Lecture Theatre, it was imperative **noise breakout** had to be **kept to a minimum**.

**PROJECT
PROFILE**

**Norden Farm
Maidenhead**



Technical Data

Conditioned Airflow: 4.1m³/s
Supply and Extract.

DX cooling system rated at 50kw.

AHU dimensions were 4950mm
long x 1650 wide x 2400 high

and weight 3800kg.

The Solution

A single section double-stacked package was designed with a horizontal Supply section above an extract section. Two air connections were provided each end and airside attenuation was carried out in the ductwork by others. **ACP** constructed the unit with **fully welded steel framework** to support **special heavy density acoustic panelling**. To **maximise noise absorbtion**, 70mm thick panels were constructed with mineral wool

slabs, a 5mm thick PVC / bitumen flexible acoustic sheet and a Mylar lead membrane, enclosed by plasticised outer and perforated inner steel skins. As well as fans, filters and heater coils, the package contained integral run-around coils, **fully factory piped** with pumps and pressurisation unit.

A **self-contained** internal cooling system was fitted with DX cooling coil in the Supply deck and condenser in the Extract.

The Client required the AHU to be capable of operating with 25% or 100% airflow. To acheive this, two unequal refrigeration circuits were installed each with hotgas bypass for capacity modulation. Each circuit included hermetic scroll compressor, refrigeration pipework, components and safety devices **allowing automatic operation**.

THE PROBLEM SOLVERS



Consulting Engineers:

Whitby Bird & Partners
60 Newman Street
London
W1P 4DA

Client

Norden Farm Centre
Trust Limited

Other Products from A C P Airconditioning;

"Consort 2000" Advanced Air Handling Units.

"Regal" Water control Fan Coil Units.

"ECO-COOL" Silica Gel Cooling Equipment.

"ECO-VAP" Indirect Adiabatic Cooling.

PRESENTED BY



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