

FACT SHEET

MSRU –Ninewells. Dundee University

- **All Year Round Recovery - a first for Scotland.**

- 63% reduction in Cooling Energy achieved .
- 45% less Chiller running Hours in 2009
- 62% Reduction in Heating Energy.
- 45% Carbon reduction achieved.
- 72% Energy recovery Summer & winter with no cross contamination.

Design & Performance data :

Supply air Volume 3.35m³/s

Summer Design Load was based on 26°C 50% RH with a supply temperature of 16°C.

This would normally equate to a Chiller Cooling load of **54Kw**, however by utilising **Econet** and **Aquacool** recovery this was reduced to **20Kw** a reduction of **63%**.

By utilising the **Aquacool** recovery package a 6°C supply temperature drop was achieved **with no Mechanical Cooling** .

During the summer of 2009 the actual Chiller running hours run were **550 Hrs** compared to the **1000 Hrs** that would have been required using a conventional AHU design.

Carbon saved during the summer of 2009 due to reduced running hours was **287.5 kg** ,a saving of 45 % against normal running time.

Heating Design load based on -6°C with a supply temperature of 26°C which equates to a **125kw** heating load ,utilising **Econet** recovery this was reduced to **48kw**.

Additional benefits of **Econet** are

Shorter air handling units, due to no need for additional heating and cooling coil.

Possibility of no mechanical cooling dependant on building design.

Further capital cost and energy savings due smaller Boiler, Chiller, Pumps, pipework etc.

Can be used with ground source heat pumps due to higher Chilled water and lower hot water temperatures'.

For further information please contact

jalexander@eac-scotland.co.uk

or call

Jim Alexander –Environmental Air Conditioning

Tel No : 0141 946 8901



- **The challenge for Dundee University Medical Science Research Unit was that it had very stringent demands to meet - all year round 24/7 usage ,strictly no cross contamination due to lab ventilation systems ,close control bands within laboratory areas, strict energy targets.**
- **The solution was found by using FlaktWoods **Econet**® system combined with eac's unique **Aquacool**® Recovery Package.**



- **The advantage of **Econet** is that it combines all energy functions, recovery, heating and cooling are integrated into one package. Combined with **Aquacool** recovery system the resultant increased efficiency in heat transfer means far lower hot water temperatures (40/30°C) and far higher chilled water temperatures (14/18°C) can be utilised.**