# Heating

## Case Study

Irish World Heritage Centre April 2013 Making a World of Difference



# Dedicated centre takes the present into the past

Manchester is celebrating the history and contribution of Irish communities from around the world with the opening of a new Irish World Heritage Centre in Cheetham Hill, one of the city's most cosmopolitan areas.

At the heart of the 25 acre complex in Queens Road lies a reconstruction of an ancient Irish ring fort which has been built using stone imported from Ireland and constructed by Irish stone masons. The tribute, with its large walled enclosure, now provides the city with a rare and unique outdoor public space.



Air Conditioning | Heating Ventilation | Controls





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The new attraction tells the story of Irish emigrants now scattered all over the world including 22 US Presidents, the inventor of milk chocolate, Hans Sloane and James Drumm the designer of the rechargeable nickel-zinc battery.

Phase one of the two phase project is now complete and boasts a multi-purpose hall, bar, shop, travel agent and business centre, all fitted with the latest cutting edge technology, including a cost-efficient heating system that uses a sustainable energy source.

The new system was designed by the Centre's Manchesterbased builders Willmott Dixon, in collaboration with building services specialists A & B Engineering from Liverpool, and uses a Mitsubishi Electric Ecodan® CAHV heat pump to provide hot water to the Centre's underfloor heating.

Ecodan CAHV heat pumps are the modern, carbon efficient way of delivering reliable low cost heating to buildings and can operate as a single unit, or as part of a multiple unit system. Split refrigerant circuits within each CAHV unit provide a 50% back-up if required.

Multiple systems offer the added benefit of being able to cascade the units on and off to optimise performance and meet the load requirement of a building with peak efficiency. For example, a 16 unit system allows 0.5kW increments of capacity from 18kW all the way up to 688kW, a level of modulation that is unprecedented within the heating industry.



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The Ecodan CAHV's hermeticallysealed monobloc design is low maintenance and is capable of providing space heating and sanitary hot water up to 70°C.

The ability to rotate the units based on accumulated run hours ensures even wear and tear.

The Ecodan CAHV's hermetically-sealed monobloc design is low maintenance and offers space heating and sanitary hot water up to 70°C. Units can operate effectively in ambient temperatures as low as -20°C right up to 40°C making it ideal for use all year round.

The system at the Irish Heritage Centre is capable of delivering 43kW at -3°C, with minimal drop off down to -20°C including defrost and for every 1kW of electricity used to power the heat pump, 3.2kW of heat can be delivered to the building; 69% of which is renewable energy.

The Ecodan CAHV comes equipped with a wide range of controller features as standard and is perfectly suited to a wide range of commercial applications.

"We have been working on our plans for the Centre for a very long time and our whole ethos was to build it using as many sustainable materials and energy efficient technologies as possible," said Michael Forde, Chairman of the Irish World Heritage Centre. "We're really delighted with the results. Willmott Dixon and their contractors have done a terrific job for us and the addition of Mitsubishi Electric's energy efficient Ecodan heating and hot water system will help keep both our carbon emissions and the Centre's running costs to a minimum."



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The installation of sustainable, low carbon heating has helped the Centre to achieve a 'Very Good' **BREEAM** rating

### **Installation Summary**

Application type: Visitor attraction

1 x Ecodan CAHV heat pump boiler

### Capacity:

43 kW at -3°C ambient

### Heat delivery method:

Underfloor heating and radiators

Jaimie Lowther, Project Engineer with Willmott Dixon said: "The design and build of the Centre has received an enviable 'Very Good' BREEAM rating which has been achieved in part by the installation of a sustainable, low carbon, energy efficient heating system."

The sustainability theme continues in the Centre's restaurant which offers produce grown in its own allotment and honey from its own bee hives.

Visitors are invited to approach the new building via the 'name walk' which features every known Irish surname, and walk across a water feature which represents the crossing undertaken by every Irish person as they left their homeland.

Phase two of the project will go ahead once funds have been raised and include a hotel development, an area celebrating the Irish heritage and history with education space, leisure facilities and football pitches.

The new Irish World Heritage Centre opened in January 2013 and further information can be found on their website at http://www.iwhc.com/

For further information on A & B Engineering visit http://abeng.co.uk/ or call 0151 228 4661.

For further information on CAHV heat pumps boilers visit http://heating.mitsubishielectric.co.uk/ or call 01707 282 666.



Changes for the Better

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