



Consultants use offices as test bed for Hybrid air conditioning system

When leading edge consultancy Hoare Lea wanted to refurbish a 12-year-old building for its Cardiff offices, the company was looking for a comfortable, energy efficient and stylish environment that complied with both existing and future legislation.

“We keep abreast of what’s going on so we can know what best suits our clients and when we heard about the Hybrid VRF system, we thought we should investigate its potential”, explains Wynne Harris, Managing Partner for Hoare Lea Cardiff.

The refurbishment of the two-storey building had to happen over a tight 6-8 week period, which called for flexibility from both the equipment and the installer, Cool Solution Ltd.

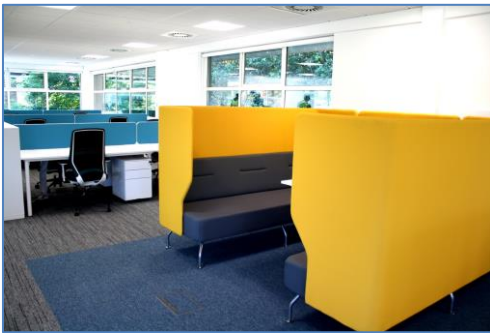


Air Conditioning

Case Study

Hoare Lea, Cardiff

Making a
World of
Difference



Hoare Lea now has a stylish, comfortable space in which to operate and room to expand.



The office on Cardiff Gate Business Park is a recycled building which is important to Hoare Lea as it limits the amount of embodied carbon used in moving from the company's previous offices.

Hoare Lea was looking to move because it needed expansion space as a growing practice and also wanted to deliver a stylish and comfortable working environment for staff.

"For the refurbishment, we could have stayed with a conventional VRF system, but we were in discussion with Mitsubishi Electric and the hybrid system sounded interesting because it combines the flexibility and control of VRF with more traditional four pipe levels of comfort".

"Mitsubishi Electric obviously believes in its own product because it is no easy feat to put a system into a consulting engineers' office, but it also means we will be able to provide some really valuable feedback to them".

The fact that this was also the first Hybrid VRF installation in Wales was another driving factor which affected Hoare Lea's decision and also excited the installation company, Cool Solution Ltd, as Director, Tony Williams explains: "How could you not be excited about being involved with such an innovative product? "

Cool Solution, which operates throughout the UK, is a Business Solutions Partner with Mitsubishi Electric and has worked closely with the company's product development team during the design, installation and commissioning of the system, into the Hoare Lea offices.

Not only did this mean working with both refrigerant and water piping throughout the building, Cool Solution had to work alongside the company undertaking the interior refurbishment work to the 12-year-old building.



Air Conditioning | Heating
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Hybrid VRF provides the same 2-pipe flexibility of traditional VRF, whilst delivering 4-pipe Chiller levels of comfort for occupants.



“The Hybrid VRF is an amazing concept with a system which helps us blend in with the mechanical contractors so it’s not just a pure AC orientated system, it also has a wet side to it as well. I think it’s got great potential to really take on the market and especially against four pipe systems” adds Tony Williams.

One of the features of having water side distribution to the indoor fan coils is that there’s a better temperature regulation of the off coil condition and this provides a much more manageable temperature for staff, with less of an issue with drafts in the workplace.

With an inquisitive bunch of engineers in the Cardiff office, Wynne Harris was also convinced that using the site as a test bed would help evaluate what is a newish system and combine that with the technical experience of seeing how it actually operated in practice in a working environment.

“Hoare Lea works across the globe and with over 800 people, we make sure we share our knowledge and experience across the company so that we can apply that knowledge to all of our projects and get the best for our clients”, says Wynne Harris.

Tony Williams agrees that the system offers tremendous potential whether in hotels or offices, especially as refrigerants and their use comes under more scrutiny from F-Gas regulations and legislation such as BS EN378, which restricts the amount that can be used in occupied spaces.

“Anywhere requiring leak detection will now mean an additional cost for VRF over any Chilled water system but we also know VRF can offer greater efficiency than wet systems, so the whole industry is looking at this at the moment”, he adds.



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Installation Summary:

Installation date: August 2015

Location: Cardiff, South Wales

Equipment:

- Three City Multi PURY-WP250 YJM-A
- Three Hybrid Branch Controller boxes
- 18 high static ducted indoor units
- Centralised AE200 controller
- Individual remote control room controllers

Hybrid VRF uses the same layout as traditional VRF systems, with 2 refrigerant pipes from the outdoor to the HBC and 2 water pipes from the HBC to each indoor unit.

It is also able to offer simultaneous heating and cooling with full heat recovery.

“The fact that this Hybrid system removes refrigerant completely from occupied spaces within the building now offers a tremendous financial incentive not just on the CAPEX side, but also in terms of operating costs”, adds Tony Williams.

“If you look at the overall project cost over say a 15 year period I think they are going to far outweigh anything that you would potentially have with a VRF product or even maybe four pipe chilled water.”

“At the same time because of the way Mitsubishi Electric has engineered the system, it's very similar in terms of control and design flexibility”.



For further information on the range of services provided by Cool Solution, visit <http://www.cool-solution.co.uk>



For more details on the range of consultancy services offered by Hoare Lea, visit <http://www.hoarelea.com>



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