



Ten Years of Comfort



One of the UK's very first Daikin VRV Inverter systems was proposed, designed and installed by Comfort Air Conditioning over 10 years ago and is still operating efficiently, keeping the client warm in winter and cool in summer.

Comfort was approached by Electrosonic Ltd. (now part of Helvar Lighting Control), world leaders in the fields of audio visual and lighting systems, with a view to provision of air cooled condensing units. This was for a relatively basic all air summer cooling system in their new purpose built hi-tech headquarters.

This two storey building was already in an advanced stage of construction comprising 3800m² of administration offices, laboratories and workshops, all arranged around a central production and storage core.



Comfort were shown the overall design intention which included a LPHW radiator, perimeter heating system and advised that the client also wished to provide a basic all air cooling system, incorporated into the fresh air ventilation system. Comfort suggested that the all air system would be difficult to provide controlled space temperatures in summer and suggested that the LPHW radiator system be omitted completely and consideration be given to utilising a VRV system for year round heating and cooling.

The client insisted that his primary requirement was for winter heating and cooling should be only considered as a supplementary benefit. Comfort were convinced that a VRV system could be provided for a similar cost to that allowed for LPHW heating and partial summer cooling, provided the system was sized to cater for the heating loads, rather than UK design cooling loads. This met the clients' requirements and initial designs and costings were produced to convince all parties concerned that the VRV Inverter (Heat Pump) would provide a more economical solution.



Comfort proved that the system could be installed at almost identical cost, with the enhancements of far better control systems use, operation and indeed running cost.

Though the construction building programme was well advanced the system could be installed quite fast compared to the original systems. Moreover VRV offered much more precise control of both cooling and heating. Further benefits were far better running costs than could be achieved with the all air system and gas fired heating, whereas the capital cost would probably be in the same order as the original scheme.

The system was commissioned and put into operation in August during a particularly hot period of weather. The external air temperature was 30°C db and the client forgetting his initial brief that he primarily wanted heating, started to complain that conditions were not being met in one of the particularly high heat gain laboratories. He thought 24°C was too high when UK design conditions were 22°C.

When he realised that the external air temperature was 2 degrees above UK design and the rest of the building was controlling at 22°C he had to agree that the system was more than effective and remembered his pre-condition that cooling was not as important as heating.

Another interesting feature of this contract was the flexible installation of the outdoor heat pumps, which were recessed into the roof.

Because the construction was well advanced when VRV was adopted and the roof already constructed, the original cut-outs for air handling intakes were modified to accept the heat pumps as the air handling plant was no longer required.

Moreover, the adoption of VRV significantly reduced the overall space required for plant installation and although the Architects were initially reluctant to roof mount the heat pumps, they finally felt it had added a feature to the building. They were so impressed with Comfort's performance and VRV that they have subsequently used Comfort for two other major VRV design and installation packages for a large pharmaceutical company.

The Electrosonic system comprises 10 no. RSXY Outdoor Heat Pumps with 64 room fan coil units, predominantly two way blow cassette, type FXYC and concealed ducted, type FXYS. Each room or area is provided with a wall mounted LCD controller enabling complete user control for on/off operation, space temperature selection, air flow direction and speed.

Part of this text was published by Daikin Industries of Japan in their Applications of the VRV System, "From Japan to the Whole World"

Comfort can provide any air conditioning solution for residential, commercial, retail, industrial, public or institutional buildings from a £500 unit to projects of £500000.00 or more.



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