



INNOVATIVE CHILLER SOLUTION SAVES MONEY AND CARBON

Major retail banking institution



primary cooling for the data centre - reducing the return flow temperature in the existing circuits from 12°C to 9.5°C. The heat pumps then enhance the rejected heat through their refrigerant circuits before transferring it to the AHUs via secondary water circuits. DCI's clever plumbing enabled the groups of Daikin units to tap into the existing water circuits, and to serve the three AHUs.

Conclusion

DCI's innovative solution provided impressive benefits:

- The AHUs are no longer served by gas boilers, saving about £290 per 14-hour day on gas and eliminating the CO₂ emissions it produced.
- The 666kW heating requirement is met by the Daikin units and is effectively free heat.
- There is a daily saving of about £31 (9%) on electricity for the data centre chillers and the AHUs.
- Annual running costs, based on 14 hour days, five day weeks and 30 weeks' heating per year, are estimated at £137,550, against £184,917 previously.
- Minimal amounts of heat are wasted to atmosphere.



The project

As part of a company-wide project to cut energy costs and increase environment-friendliness, a major bank targeted the gas boilers supplying 666kW of hot water to coils in the three air handling units (AHUs) that ventilate its six-storey central London data centre.

The challenge

DCI was called in to reduce or eliminate the need for the boilers in providing space heating for more than 2,500 staff. While heat recovery from the data centre's chillers was the obvious choice, this was not an option as there was only low-grade heat being generated and alterations necessary to harness it could have led to warranty issues.

The solution

DCI solved the problem by installing two groups of six Daikin Hydrocube heat pump chillers to provide



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