CASE STUDY

COOLTHERM EQUIPS CARDIFF UNIVERSITY WITH HIGH EFFICIENCY MITSUBISHI CHILLER

A chiller replacement project for Cardiff University will massively reduce the carbon footprint of process cooling, resulting in important energy cost savings.

The Cooltherm team in Wales were selected to design a bespoke full turn-key chiller plant to provide the university with the most efficient and low carbon system as possible.

Cooltherm's project team back engineered the existing system and regrouped all the data to ensure the design was as efficient as possible, as well as maximising the performance of the system. The chiller was feeding thirteen indoor fan coil units located within the third-floor laboratories, as well as an Air Handling Unit Cooling Coil. The maximum cooling capacity was proven to be 50kW at +6/ +12°C flow and return water conditions.

The existing pump was undersized which proved to be the cause of past water issues. Cooltherm designed a new pump skid comprising two Lowara Run and Standby pumps to suit the maximum required flow rate and pressure loss through the existing hydraulic circuit. To increase the performance, each pump is inverter driven and is controlled depending on the instantaneous cooling demand ensuring the right flow rate through the chiller and the minimum power consumption.

The Mitsubishi E-Series chiller uses highly efficient scroll compressor technology using only 5% of a conventional chiller starting current, equipped with a soft-start device. The starting current of 8Amps is the key fixture of the low carbon emission machine. A conventional chiller in comparison would have an average starting current of 180A, it is anticipated that this will save the university £4,000 a year on energy costs.

Romain Pernet, Cooltherm's Projects Supervisor said:

"This project combined a high level of engineering with very high performance. Project-management was a crucial aspect of the job, and everything from the crane lift to commissioning was organised and well prepared. The client was really happy with the outcome and is planning to install another similar system within the university. In fact, a second E-Series chiller has already been delivered and we are looking to install more".

SAVING

£4k

PER YEAR ON ENERGY COSTS

www.cooltherm.co.uk - E: enquiries@cooltherm.co.uk - T: 0117 961 006
Bristol Office: Unit 5, Trubody's Yard, 121 London Road, Bridgeyate, Bristol, BS30 5NA
Cardiff Office: Unit 5, Maritime Court, Bedwas House Industrial Estate, Bedwas, Caerphilly, CF83 8DW
Reading Office: Unit 26 Easter Park, Beynon Road, Aldermaston, Berkshire, Reading, RG7 4QB