

Low profile chiller solution for Hilton Hotel



When London's Hilton Hotel replaced ageing air conditioning and ventilation plant, it took the opportunity to update its cooling requirements and relied on a low profile solution to comply with planning regulations.

Nestled in the heart of Mayfair the Hilton at Green Park is a six storey Grade II listed building that dates back to the 1730s. The area is known for its listed buildings and is protected by stringent building regulations and aesthetic requirements to preserve the area's rooflines.

The Project

Howard Electrical an approved contractor for the Hilton Hotel Group was tasked with sourcing replacement chillers to provide cooling for the public areas and back of house that require a temperature of 21°C. Initially the company considered replacing the existing chillers with newer models, but it quickly became apparent that standard chillers were unsuitable and could not address the space constraints or aesthetic considerations.

Only a customised approach could meet the requirements. Known for its expertise in designing systems wherever there is a need for cooling and temperature control, ICS Air Conditioning worked with its in-house manufacturing company Tricool Thermal and was asked to design a solution.

Westminster Council also had its own criteria that necessitated in the chillers either being identical to the ones' being replaced or occupying a smaller footprint and having a lower profile so as not to alter the area's skyline. Noise was also a consideration.

A customised solution

Taking onboard all the elements that needed to be incorporated, Tricool Thermal custom built two specialist low profile SCC132 chillers.

The two 132 kW chillers (one used as a standby unit) incorporate the latest advances in refrigeration design to provide a trouble free working life operating on refrigerant R407C gas.

Each unit is fitted with a single 70hp, eight-cylinder semi hermetic reciprocating compressor, complete with three stages of cooling control, low profile condenser complete with three 800mm diameter axial fans and a single circuit shell and tube type evaporator.



Tricool Thermal customised chiller

As well as significantly improving energy efficiency all companies worked together to take advantage of the opportunity to reconfigure and reduce pipe work.

Noise was an important consideration in the design of each unit and Tricool Thermal design teams were able to select components to limit this to 58 dB(A) @ 10 metres.

"Standard chillers are suitable for many applications but are not designed to cope with exacting performance specifications or space and weight limitations," says Dave Palmer, Director for Tricool Thermal.

"The Hilton is a listed building with roof top plant, limited access and space. By working within those parameters we were able to provide a satisfactory solution that could easily be craned into place with minimal disruption for the hotel and its guests."