



Case Study **AIRPORT**



First UK Installation of Carrier Ultra-Low GWP HFO Chiller Lands at Gatwick Airport



The first UK installation of Carrier's new ultra-low Global Warming Potential (GWP) AquaForce® 30XAV chiller operating on the company's PUREtec® HFO R-1234ze refrigerant has been completed at Gatwick Airport Ltd. Selected as a replacement for an ageing air-cooled screw chiller, the project is part of a major upgrade at Jubilee House, the administrative offices of Gatwick Airport Ltd.

Carrier's AquaForce 30XAV with Greenspeed® Intelligence was selected by Gatwick Airport Ltd as a solution to help meet the airport's strict environmental policy, set out in its Decade of Change vision and Cooling Strategy beyond 2020. The new policy includes goals to transition away from high Global Warming Potential (GWP) refrigerants and targets to reduce carbon emissions by 50 per cent, energy consumption by 20 per cent, and securing 25 per cent of its energy from renewable sources.

Very low GWP

The chiller uses refrigerant R-1234ze with a GWP rating of less than 1, has low sound output and high resilience due to its dual refrigeration circuit. Carrier's Greenspeed® Intelligence system delivers high efficiency by precisely matching cooling output with the load using a fine-control inverter. This optimises efficiency particularly at part load conditions, which represents the majority of the time in the UK. The chiller's excellent efficiency results in a significantly lower carbon footprint and lower running costs over its operational lifetime.

Jack Hartland, principal mechanical engineer at Gatwick Airport, said: "We have set ambitious targets for the environmental performance of all aspects of Gatwick's operations, and the energy efficiency and carbon status of our buildings are key elements. Based on ultra-low GWP refrigerant R-1234ze, the new Carrier chiller delivers in relation to both efficiency and carbon, and has helped us achieve the outstanding environmental performance our strategy requires."

The chiller is designed for flexibility in such replacement projects, with a compact footprint and variable configurations of water pipework that can be matched to existing connections. At Gatwick, the built-in chiller control interface was linked into the building management system, giving high-level control and helping to minimise energy consumption.

EQUIPMENT

Carrier AquaForce 30XAV chiller operating on PUREtec HFO refrigerant R-1234ze