



Case Study

AquaSnap® 61AQ
Heat Pumps
Installed at UK's
First Verified Net
Zero Hotel





Radisson Hotel Manchester City Centre has become the first hospitality venue in the UK to install Carrier's new AquaSnap® 61AQ heat pumps.

The Client

Radisson Hotel Manchester City Centre is a premium hospitality destination located in the heart of the city. As part of the Radisson Hotel Group, the hotel has made long-term sustainability a key strategic priority. It is now a Verified Net Zero property, committed to reducing Scope 1 and 2 emissions through meaningful, low-carbon interventions, including a full upgrade of its heating system.

The Challenge

As part of its Net Zero commitment, Radisson Hotel Manchester was looking for a high-efficiency, low-emission heating system that could meet the building's space heating and domestic hot water demands without compromising guest comfort.

The hotel initially specified an earlier-generation heat pump from Carrier's 61 range, but in early 2025, Carrier launched the new AquaSnap® 61AQ, designed specifically for natural refrigerant R-290. With a Global Warming Potential (GWP) of just 0.02, the 61AQ offered a step-change in environmental performance compared to older refrigerants.

Recognising the opportunity to push further in its sustainability journey, design consultants [PS] K Design helped the hotel revise its specification to adopt the new technology, a move that would eliminate reliance on gas, support Verified Net Zero status and align with the 2040 Net Zero Methodology for Hotels.

The project came with operational and engineering challenges. Each of the four 120 kW modular heat pump units had to be crane-lifted at night onto the roof of the fully operational, city-centre hotel. This required close coordination between stakeholders to minimise disruption to guests and city-centre traffic.



The Solution

Radisson Hotel Manchester has become the first UK hospitality venue to install Carrier's high-temperature, air-to-water AquaSnap® 61AQ heat pump. The 61AQ has been specifically engineered for low-carbon, high-performance heating in commercial buildings.

Four 120 kW units, offering a combined 480 kW of heating capacity, were installed on the hotel's rooftop by Nationwide Air Conditioning, with the system designed by HVAC consultants [PS] K Design. The solution now serves the entire building, delivering space heating and hot water at temperatures of up to 75°C, even in winter conditions as low as -7°C.

Each unit is equipped with inverter-driven compressors and variable-speed fans, enabling the system to modulate based on demand. This feature significantly improves seasonal efficiency, supports energy savings and reduces wear. The system also includes a legionella prevention cycle, ensuring safe domestic hot water generation.

The new heat pump not only exceeds Ecodesign efficiency standards by up to 30%, but also operates at noise levels 10 dB(A) below regulatory thresholds, which is an important factor in maintaining the hotel's quiet, premium environment.

In addition, all four units are connected to Carrier's Abound HVAC Performance platform, providing remote monitoring, diagnostics and predictive maintenance. This digital oversight gives the hotel's engineering team real-time visibility into system performance, helping to optimise operation, plan service activities and avoid downtime.

The upgrade also involved modifications to the primary circuit, identification of rooftop space for the new plant, and integration into the existing building services without major disruption. While the new system operates at lower flow temperatures, most of the original heat emitters were retained, preserving fit-out and minimising guest impact during installation.

“We use 100% renewable electricity, offer low-carbon menus, and now have a heating system that enhances our energy efficiency and reduces our carbon footprint — all while maintaining our high standards of guest comfort.”

Simon Pearson, Area Engineering Director – UK and Ireland, Radisson Hotel Group



The Result

Radisson Hotel Manchester City Centre now benefits from an efficient heating system that aligns with its long-term sustainability ambitions while enhancing operational efficiency.

The switch to Carrier's 61AQ heat pump, which uses natural refrigerant R-290 with an ultra-low Global Warming Potential (GWP) of just 0.02, has reduced the hotel's environmental impact further.

The system delivers reliable high-temperature performance, producing domestic hot water at up to 75°C, even during winter conditions, ensuring uninterrupted comfort for guests.

With advanced inverter-driven compressors and smart load modulation, the installation offers enhanced energy efficiency, achieving seasonal savings and exceeding Ecodesign efficiency requirements by up to 30%.

The integration with Carrier's Abound HVAC Performance platform provides the hotel's engineering team with real-time monitoring, diagnostics and predictive maintenance tools, which help to reduce downtime and extend the system's lifespan.

Crucially, the new heat pump system has enabled the elimination of gas-fired heating, supporting Radisson's Verified Net Zero status and its broader decarbonisation goals.

“This project represents one of the first real-world installations of a next-generation R-290 heat pump in a UK hotel.”

Daniel Valente, Head of Projects, Nationwide Air Conditioning

To find out more about Carrier's AquaSnap® 61AQ call 01372 220 220 or visit www.carrier.com/commercial/en/uk.

You can also write to us at: uk.info@carrier.com.

About Carrier

Founded by the inventor of modern air conditioning, Carrier is a world leader in high-technology heating, air-conditioning, digital platforms and building automation systems. Carrier provides sustainable solutions, integrating energy-efficient products, controls and service for commercial applications, including data centres, healthcare facilities, schools, retail centres, office spaces and more. Carrier is a part of Carrier Global Corporation, global leader in intelligent climate and energy solutions, committed to creating innovations that bring comfort, safety and sustainability to life. For more information, visit www.carrier.com/commercial/en/uk @Carrier HVAC Europe on LinkedIn.

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