

CASE STUDY

The doubletree by Hilton cuts costs and carbon emissions with the Q-ton heat pump

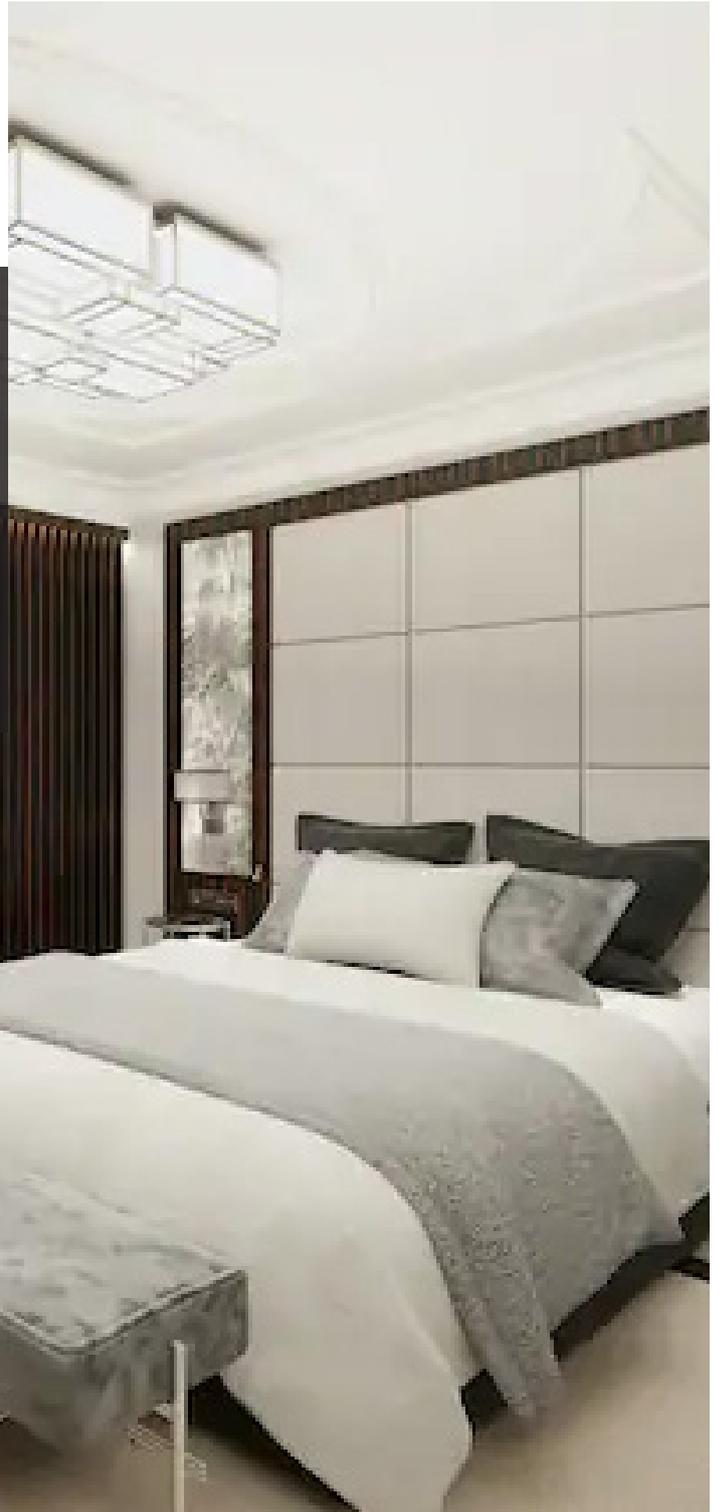
**Q-ton** *Air to Water*

**Overview:**

**Project:** The Doubletree by Hilton

**Project outline:** An innovative and cutting-edge replacement installation to improve the buildings overall energy efficiency.

**Product:** Q-ton heat pump



## CASE STUDY

# The doubletree by Hilton cuts costs and carbon emissions with the Q-ton heat pump

World-renowned premium hotel in Spain reduces CO<sub>2</sub> emissions by 43% and increases annual economic savings by 48% with air-to-water CO<sub>2</sub> heat pump.

### Understanding the client's luxurious needs

The Doubletree by Hilton a Coruña, situated in the heart of the city centre, is the city's first boutique hotel. Constructed in 1992, the building stands in an avant-garde style close to popular culture and leisure sights.

The building previously used as offices for the Spanish Electricity Grid has since had a complete renovation to become the work of art it is today. The building exudes complete luxury from its black marble details across its exterior, to its extraordinary internal lighting.

Luxury is key across the building's seven floors and fifty-nine bedrooms to ensure the first-class stay for hotel guests. The Building also includes a fitness area, Turkish bath, Finnish sauna, beauty and massage parlour for the maximum guest enjoyment.

### A need for innovation and efficiency

The building demanded new solutions to help increase its overall energy efficiency and the latest technology for optimal quality across the entirety of the building.

Precision is important in every aspect for The Doubletree by Hilton, all services and interiors must guarantee complete guest comfort, high quality experience, and an incomparable attention to detail.

### The solution: Q-ton heat pump

Engineering firm ConForma installed the project from start to finish, equipped with the expertise to provide an innovative solution. As well as a commitment to provide a solution for the hotel's requirements and reputation.

The team installed the latest technology for domestic hot water (DHW) needs, the Q-ton heat pump. A pioneering solution with DHW heating capacity up to 90°C using the ecological CO<sub>2</sub> coolant and inverter technology. The chosen unit – a 30kW Q-ton model with capacity for DHW of 8,164 litres per day and heat production for 3,000 litres of water.



While the Q-ton unit offers versatility and flexibility for either indoor or outdoor installation, the engineers positioned the unit on the hotel roof to avoid the visual distraction to the hotels striking interiors. Removing a level of planning should the hotel wish to refurbish its interiors in the future, as well as to provide more space inside.

The Q-ton heat pump is a ground breaking solution that uses the world's first rotary & scroll compressor to transfer air to hot water. The Q-ton heat pump is an aero-thermal and renewable energy system, which uses 'free' heat from the outside air and transforms it into energy for buildings. The unit supplies sanitary hot water without the need for a back-up system.

### The results

The unit produces and stores DHW at between 60°C and 90°C, achieving an average installation COP of 4.56, producing water at 60°C and an estimated annual economic saving of 48% compared with the hotel's former diesel boilers. The estimated saving in CO<sub>2</sub> emissions is 43%, compared a boiler system with the solar back-up providing 40% coverage.

By monitoring the Q-ton system daily, the unit maintains high levels of operational performance, efficient operation, and consumption savings. Its user-friendly user interface ensures very straightforward and basic maintenance. Staying at the hotel Doubletree by Hilton A Coruña will undoubtedly be a high-quality experience at every level. The Q-ton system will continue the hotel's commitment to excellent efficiency, quality and comfort for guests without compromising the environment.