



Building type:

Luxury housing development

Technology used:

aroTHERM heat pumps

Buffer cylinders

uniSTOR cylinders

Installer:

Edwards Contractors -
Russell Edwards

Project background

- Renewable heating technology in three luxury new homes
- Heat pump installation is a first for village and developer
- System for each property individually designed and specified by Vaillant

Projected energy assessment

- Following the installation of the air-to-water heat pump, the predicted energy efficiency rating is band C, resulting in lower fuel bills
- The predicted rating for carbon dioxide emissions is band B

System specification

Any housing developer knows that, with luxury homes, it's the little details that really make the difference.

Discerning buyers rightfully expect consideration to be given to everything from potential furniture placement and space functionality, to the positioning of each and every electrical socket. Everything in the modern home is perfectly designed to provide the utmost convenience, comfort and contentment for its owners. Despite this, the heating and hot water system is often overlooked in favour of more visible features.

This is not the case for family-owned developers, Goulden Simpson Ltd, who have recently constructed a trio of energy-efficient properties

in Shropshire using heat pump technology. Designed with the comfort of occupants in mind, it was imperative the traditional British-style properties had a heating system to match.

Each property at St Peters Court is powered by a Vaillant aroTHERM heat pump which takes heat from the outside air and turns it into hot water for central heating and domestic hot water. Heat pumps deliver heat at low temperatures over much longer periods than traditional gas boilers. This, together with the integration of Vaillant controls, means they are more efficient and are less likely to overheat a well-insulated new build property, adding to further savings on energy bills in addition to reducing unnecessary energy consumption. Furthermore, unlike similar properties in the surrounding area, residents at St Peters Court won't be reliant on fuel deliveries or susceptible to fluctuating oil prices.

The result is a collection of energy-efficient, self-reliant, premium quality properties that set Goulden Simpson Ltd apart from the competition.



Installation

Each property features a unique system designed and specified for Goulden Simpson Ltd and commissioned by Vaillant's engineers. In addition, Vaillant also provided training to Russell Edwards, of Edwards Contractors, to ensure faultless installation.

Taking into consideration the style and location of the properties, flexible hoses and anti-vibration feet were installed in accordance with MCS MIS 3005 and the primary pipework was suitably sized to ensure correct flow across the heat pump. In addition, Russell Edwards positioned the heat pumps as close to the properties as possible to reduce pressure and energy loss.

Outcome

The three luxury homes now boast a reliable and renewable heat source courtesy of latent heat in the outside air, which the aroTHERM heat pump subsequently converts into heat and hot water production.

The heat pump is housed in a separate adjoining building to the main property to ensure maximum space within the home. It is connected to a 250 litre stainless steel high performance hot water cylinder to generate domestic hot water, as well as supply energy for the underfloor heating system.

To comply with HSE Code of Practice, Vaillant's weather compensated controls ensure the water content of the cylinder is heated to a temperature of 60°C for one hour every day as well as making sure the heat pump always performs at maximum efficiency to minimise energy consumption.



Why Vaillant?

Kelly Simpson
Developer at Goulden Simpson Ltd,

"As this was the first time we had implemented renewable technology in a development, we decided to choose a manufacturer with proven expertise and a recognisable name that our buyers would trust. We also needed a company that would be able to offer support and guidance to us throughout the installation process."

