

The Exchange, Watford



The Exchange Watford, Ambient Loop Heat Network

Daikin's Ambient Loop heat pump solution delivers high-efficiency, low carbon domestic hot water and heating for UK Pension Scheme New Build Development, Watford, Hertfordshire.

A UK Pension Scheme established a collaborative development partnership with Berkeley Homes to construct two multi-storey residential buildings, providing a total of 249 private rental units. The development is located at a former retail park site on St Albans Road in Watford. JLL oversees asset delivery on behalf of the UK Pension Scheme.

The UK Pension Scheme is committed to leading the way in delivering world-class sustainability in its developments, to minimise the carbon footprint of its assets and to create genuinely sustainable living spaces where residents and communities can flourish.



RESIDENTIAL

The original development proposals, designed to comply with planning permissions, were based on an all-electric system for heating and hot water generation. BWP and JLL engaged jointly with Berkeley Homes in 2019 to explore new highly sustainable and low-carbon technologies to provide the heating, cooling and domestic hot water delivery to the development.

Air Cool Engineering Service & Maintenance Ltd (ACE) was approached by JLL and Berkeley Homes during the first week of the Covid pandemic in 2020, to discuss The Exchange project. Having a long association with both Daikin and Berkeley Homes over many successful developments, ACE's Kevin McLeod met with Daikin to look at their new Altherma water source (WS) heat pump system coupled with their applied air source heat pumps.



Multi-storey solution

Set in 1.6 acres of green space, The Exchange takes inspiration from the area's printing and paper industry heritage. Each studio or apartment is equipped with its own Altherma WS heat pump providing domestic hot water, heating, and the possibility of cooling at a later date if required:

- Block one - 12 storeys with 117 heating and cooling Altherma WS and two Applied air source heat pumps on the roof
- Block two - 17 storeys with 132 Altherma WS and two Applied air source heat pumps on the roof.

This Applied and Residential product combination helps tenants live more sustainably and saves energy

Aesthetic considerations play a part in any new build development; where exceptional standards are the norm, and art and sculpture are focal points of the development, every element must be carefully considered. JLL and ACE were pleased with the styling of the Altherma WS units and the ease of incorporating them into each apartment's floor plan. Berkeley Homes was able to reconfigure the layout of the services cupboard within each apartment to contain the Altherma units, without loss of usable rental area.





Heating and domestic hot water on tap

The Central Water Loop will prevent the communal areas and corridors overheating, maintaining a temperature of around 23°C, as water is circulated from the high efficiency reversible heat pumps on the roof at an ambient temperature. The Altherma WS units allow for each property occupant to manage the heating and domestic hot water to meet their individual requirements via their own metered electricity supply.

The Daikin EWYT~B- series high efficiency reversible air source heat pumps (ASHP) are extremely flexible, made-to-order products with an energy meter, inverter controlled twin centrifugal pump, compressor soft starters, and compressor enclosures incorporated to meet the stringent design requirements. Daikin's on-Site web based monitoring platform allows remote monitoring of the ASHP's throughout their lifecycle.





Appointed by JLL, Bourne Wood Partnership is the construction and development management consultancy on the project. "Renewable energy is a cornerstone for investors and occupiers. Not only are Daikin one of the market leaders, but they already had the technology we needed to meet the UK Pension Scheme's green agenda. The ambient loop system will minimise heat loss throughout the building, keeping running costs low," said Bourne Wood Partnership MD, David Kilby,

"Once fully occupied, we believe these low running costs will provide a competitive advantage over adjacent properties served by all-electric heating," he concluded.

Practical completion will be during 2025, with occupation from Q1 2026.

Kit List

Model	Description	No of units
EWSAX06UD9W	Altherma 3WS (heating & cooling)	249
EWYT235B-XLA2000	Applied heat pump multi scroll	2
EWYT265B-XLA2000	Applied heat pump	2

For further details visit our website:

https://www.daikin.co.uk/en_GB/about/case-studies/the-exchange.html



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