



The Range

FUSION Sustainable Water Heating

In January 2024, market-leading mechanical and electrical contractor WM Building Services Limited (WMBS) secured the contract for the new build of a retail goods and produce distribution centre for The Range. One of the UK's most recognised and fastest growing leisure and garden centre retailers, The Range has more than 200 stores and has recently acquired both the Wilko and Homebase brands, intending to rebrand as many as 70 of the latter's properties as new The Range Stores.

As key function of this planned expansion, the new distribution centre for The Range & Wilco would be located in Stowmarket, Suffolk. With 356,600 square metres of warehousing space and the ability to manage 200 plus trucks, the site would be considerably larger than its typical stores. This new building was also to align with the retailer's aims of increasing sustainability and reducing lifetime carbon emissions from its properties.

Envisioned as a two-phase project, the build of the distribution centre would commence

with a clearly outlined base build and then a full package fit out of services within the limits of the building. External attachments to the site building, such as packaged plant rooms, would not be a viable option for this project.

Part of the building specification required the provision of domestic hot water (DHW) for canteen and kitchen facilities, within the distribution centre building, to support the expected 1650 employed across the vast site.





Recognising a need for specialist assistance, WMBS contacted commercial hot water experts Adveco to advise on how to meet the criteria in the specification. Upon evaluation and recognising first, that the building specification would not incorporate any gas connections typically employed in larger commercial structures and secondly, the need to maximise internal space for distribution functions, Adveco proposed a low-carbon, electric-only response based upon its FUSION T packaged electric water heating system. This approach would help contribute towards the building securing its BREEAM certification.

Adveco's FUSION is an award-winning range of low-carbon, all-electric water heating applications for commercial projects with a wide choice of pre-sized packaged variants. The system comprises an ARDENT electric boiler mounted to a specially configured high-pressure ATSI Stainless Steel cylinder. This provides a compact, highly efficient, low-carbon electric water heater that can be then combined with Adveco's FPi32 Air Source Heat Pump (ASHP) and dedicated controls and metering, for further carbon reduction and operational cost savings. This FUSION T variant is capable of cutting emissions by up to 56% compared to equivalent gas-fired alternatives.

For new buildings, such as The Stowmarket Distribution Centre, which must now meet regulatory changes preventing new gas connections, FUSION electric water heaters provided a clear response that was cost-effective, more sustainable and could meet the large-scale daily demands for hot water.

Adveco supplied 12 kW ASHP variants of FUSION packaged with 500L ATST twin-coil cylinders and ARDENT Premium 24kW Electric Boilers, with all necessary controls. The ASHPs feed into the lower coil of the ATST cylinder, supplying low-carbon system preheat.

The electric boiler, plumbed into the upper coil supplies necessary top-up heat to achieve safe working temperatures for the commercial application, as well as meeting peak demands as and when required.

The purpose-designed controls smartly manage the balance between the two heat sources, to maximise efficiency and reduce consumption of electricity, reducing associated carbon emissions and controlling operational costs. There is also a highly significant level of redundancy introduced by having a balanced secondary heat source.

This reduces strain on all system elements, cutting wear and extending the operation life of the system and reducing maintenance demands.

WMBS were extremely "impressed and satisfied" with the FUSION application, swift progression of the service and ultimate outcome, which contributed to the building securing an 'Excellent' BREEAM certification. The hot water system is now "running well and efficiently on-site" with notably lower carbon emissions, which will continue to decrease over the life of the building, as the electricity grid undergoes further decarbonisation.

Please visit:

<https://www.therange.co.uk/>

<https://www.wmbuildingservices.com/>

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