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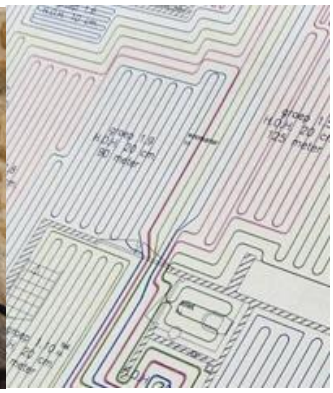

Nassington Barn Conversions, Cambridgeshire

Air Source Heat Pumps and Underfloor Heating

Thermo-Floor have worked closely with a prestigious developer since 2005 -designing, supplying and installing the underfloor heating for their luxury country homes. Totalling some over 25 projects to date, the homes are set in idyllic rural village locations across and require the highest specification product and workmanship in the installation of both the underfloor heating and high-end control systems.

The Nassington development has two barns converted into two dwellings. Each with UFH on the ground floor and traditional radiators upstairs.

As part of our new Renewable Energy Product Portfolio, Thermo-Floor was contracted to design and install an ASHP with UFH system plus floor screed in each dwelling.

The home owners were given an option of purchasing the property with either an oil boiler or an ASHP. Due to the high price of oil the home owners opted for heat pumps which offer a cheaper, more economical and environmentally friendly source of energy.

Facts and Figures

Building

- Floor area : 240 m²
- Insulation: 0.022 W/m.k
- Floor insulation: 240 m²

Source of energy

- Danfoss DHP-AQ ASHP

Climate system

- Heating
- Active heating up to 40°C flow
- Heat recovery - ventilation

Thermo-Floor system

- Full service project execution
- LTS-N-manifolds for heating
- Central control for each zone
- 1.5 miles underfloor pipe
- Danfoss 16KW DHP-AQ heat pump
- 300l heating cylinder and 200l buffer cylinder

Thermo-Floor selected Danfoss ASHPs because of their excellent reliability and performance.

The result: Thermo-Floor installed Danfoss 16Kw DHP-AQ heat pumps at each property with 300l hot water cylinders and 200l buffer cylinders. The hot water system was fitted with a secondary return pump, which enables the home owner to have instant hot water during peak time of the day by means of a hot water circulation pump with an integral timer.

Each zone was fitted with a programmable thermostat which can be adjusted centrally via a maintained via a central control system.

This development has two barns which have been converted into two dwellings. Each has UFH on the ground floor with traditional radiators upstairs. Thermo-Floor was contracted to design and install the UFH system, floor screed as well as an ASHP on each dwelling. The prospective home owners were given an option of purchasing the property with either an oil boiler or an ASHP. Due to the high price of oil the home owners opted for heat pumps. We installed Danfoss 16Kw DHP-AQ heat pumps oat each property with 300l hot water cylinders and 200l buffer cylinders. The hot water system was fitted with a secondary return pump, which enables the home owner to have instant hot water during peak time of the day by means of a hot water circulation pump with an integral timer. All the home owner need to do is set the timer for the times hot water is required such as early mornings and evenings.

A networked control system was selected which gives the home owner the feature of interrogating and adjusting their heating and hot water perimeters from a central location in the house. Each zone was fitted with a programmable thermostat. These could be adjusted centrally with going to each zone to make any adjustments. Danfoss ASHPs were selected because of their excellent reliability and performance. With the current price of oil, it was a logical solution to use ASHPs. They also benefited from the £850.00 RHPP grant which is available from the Energy saving Trust.