

# Fishlake, Doncaster



## High temperature heat pump a money saver for Yorkshire homeowner

Upgrading from an oil-fired boiler to a Daikin Altherma High Temperature heat pump split system gives a Yorkshire homeowner a more environment-friendly heating system and greater comfort.

The heat pump solution for space heating and domestic hot water from Daikin eliminates the cost of oil – and any risk of supply difficulties or oil thefts – and opens the door to the government’s domestic Renewable Heat Incentive (dRHI).

Despite increased electricity consumption, the net savings on energy costs plus the incentive payments over seven years are expected to reach £25,000 – comfortably offsetting the capital cost of the new system.

The 250-year-old four bedroom house is off the gas grid in the village of Fishlake, beside the River Don and the Stainforth-Keadby Canal, north-east of Doncaster. Solidly brick-built, the house, Riverview, adjoins an earlier 18th century house that served as the customs house when Fishlake was an inland port.

IT and Operations Director Trevor Burrows and his wife bought Riverview 15 years ago. He says: “We inherited the oil-fired system and it served us pretty well for a long time. But there were reliability issues with the boiler itself, and concerns over the integrity of the above-ground oil tank outdoors.

“Our first thought was simply to replace it with a modern oil boiler and new oil tank, but because of regulatory changes since the old system was installed, we would not have been able to site the components in the same positions. This would have created flue and plumbing problems.”

The oil tank had been sited behind a low wall on the street frontage of the property. The boiler was a few feet away inside a barrel-vaulted cellar.

“Because of the difficulties of resiting both key elements of an oil-fired system, I researched various other alternatives. I bumped into Andy Job of 2A Services and we started talking about air source heat pumps almost by chance.

### Year of installation

> 2017

### Project requirements

- LT Split
- LT Mono
- HT Split
- Hybrid
- Combustion
- Smart Controls
- Solar Thermal
- UFH
- Heat Pump Convector

### Installed systems

> High Temperature Split16 KW

Trevor Burrows says:

“My investigations took me to other suppliers, but through 2A Services we engaged with Daikin and came up with the Daikin Altherma HT solution. It’s an efficient and clean system – with an energy source that cannot be pilfered.”



“Naturally, it has increased our electricity consumption, but the cost is much less than we were paying for oil. With this saving plus income from the dRHI, the heat pump will soon pay for itself – and its operating costs. This should leave us financially better off when the dRHI payments cease after seven years.

“The ability to get a five-year warranty was also a great comfort factor, but I was already confident that Daikin could provide a good technical solution. There is a lot of Daikin equipment in the office block at my workplace, so I know and trust the brand.”

The Burrows’ 16kW system consists of the outdoor twin-fan unit, in virtually the same position as the old oil tank. The perimeter wall has been raised, so the unit is not visible from the street. The floor standing hydrobox is a short pipe-run away in the cellar, where the old boiler was positioned.

Installer Andy Job of Doncaster-based Daikin heating key partner 2A Services says the conversion from oil to air took about two weeks to complete.

He says “It involved removing the old boiler and oil tank, a vented DHW system, some radiators and associated plumbing and heating pipework. Then it was a matter of installing the Daikin Altherma HT system, new 210-litre third party DHW cylinder, new radiators and pipes – and commissioning the system.”

Andy Job says the Daikin Altherma Low Temperature heat pump was also considered. But, he says: “The house is not really suited to an LT system because of its estimated heating loads. An LT at 55°C could be under pressure to maintain required temperatures, but an HT at 65°C would have ample capacity to meet demand without undue strain.”

The Daikin Altherma HT system has a primary refrigerant circuit charged with R410A refrigerant. The hydrobox has Cascade technology - a secondary R134A circuit that produces the higher temperatures. The hydrobox also contains all the other necessary hydraulic components.

The new system at Riverview had been operational for a year when the ‘Beast from the East’ struck the UK in 2018. There was some concern when wind-blown snow accumulated and froze under the outdoor unit. Andy Job says this will be avoided in future years with the addition of a bottom plate heater.

Trevor Burrows says the system has performed well, delivering much better comfort levels than the oil-fired system. ‘It has definitely made a difference to the whole house,’ he says.

“It has a Netatmo controller, so we are able to control the temperature from anywhere with our smartphones,” he says.

Other Fishlake villagers with oil or LPG heating systems are watching Riverview with interest. “The dRHI grants really get their attention,” he says.

And it appears to be something of a family solution. Trevor Burrows says: “I’ve just found out that a nephew in North Yorkshire recently upgraded to a Daikin Altherma system, too.”

#### Kit List

Code	Description	No. of Units
ERSQ016A V1	Daikin Altherma HT outdoor unit	1
EKHBRD016ADV1	Daikin Altherma HT indoor unit	1