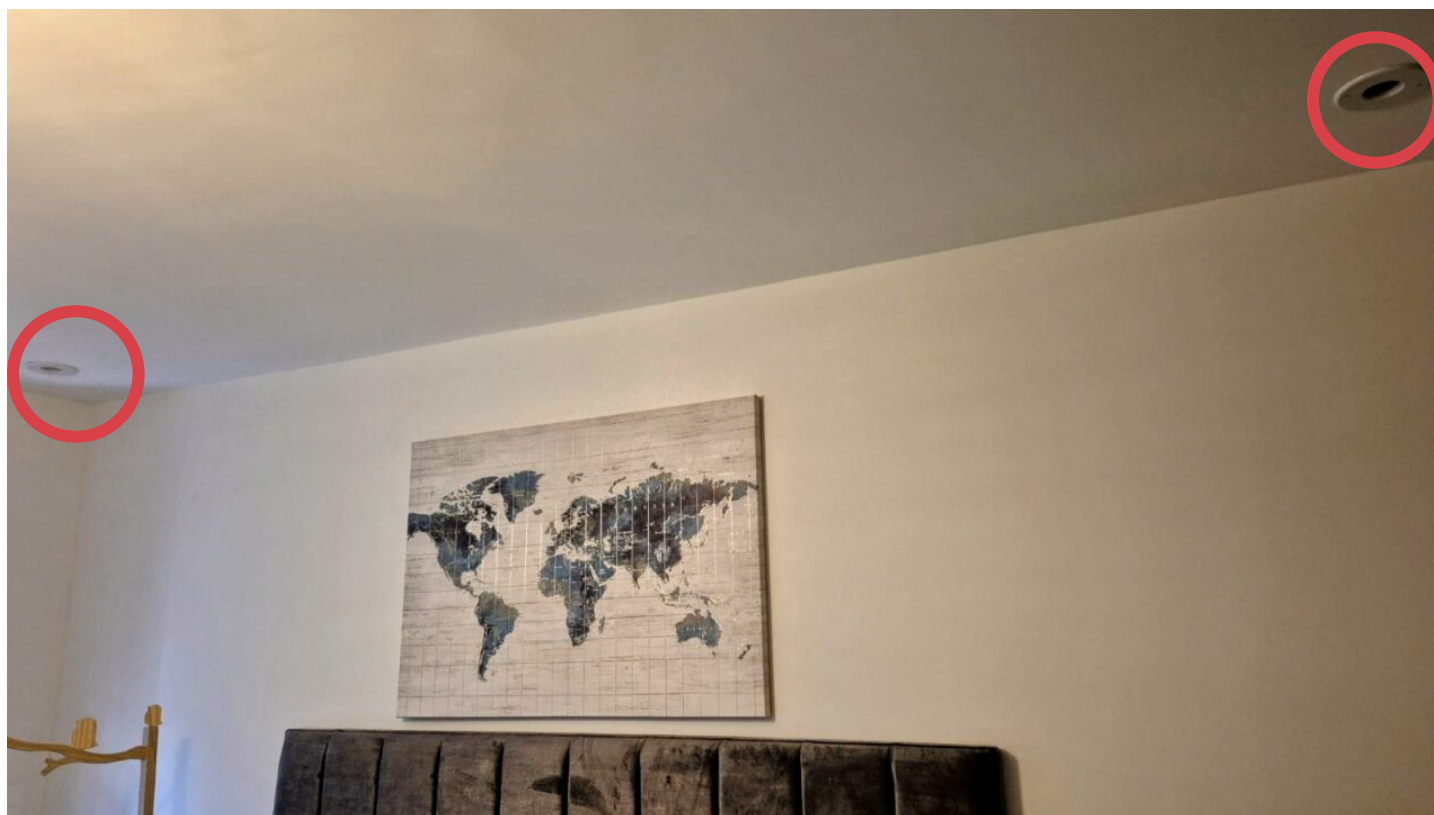




## UNICO RETROFIT AT MODERN DETACHED HOME OFFERS THE COMPLETE SOLUTION

### Introduction

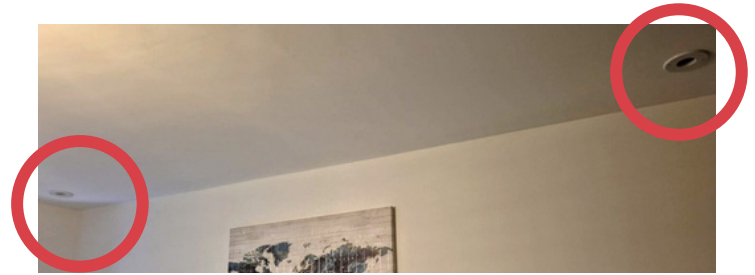
A detached house in Clitheroe built in 2020, is now benefiting from a Unico HVAC (Heating, Ventilation and Air Conditioning solution), which heats and cools the first floor of the property. The homeowner has capitalised on the versatility of the Unico System to ensure a comfortable indoor temperature all year round and make a significant contribution to superior Indoor Air Quality (IAQ), along with other practical benefits.

Lewis Rothwell was familiar with the benefits of the Unico System through his work as Low Carbon Assistant Manager at James Hargreaves (Plumbers Merchants), a Unico Specialist Merchant Partner in the North West. He knew it would be ideal for retrofitting into the upper floor of his own property, thanks to both the compact design of the air handling unit and main ductwork, as well as the flexibility of the supply tubing that could all be accommodated easily within the roof space of the existing building.

## Strategy

The use of renewable energy for the installation was a prerequisite. As an all-in-one central air distribution system compatible with renewables, the Unico System would fully meet all his heating and cooling requirements without the need for two systems. The 63m<sup>2</sup> upstairs space includes four bedrooms, an en-suite and a separate bathroom. It has a heat loss of around 4.5kW, and the Unico 2430 Series Air Handling Unit (AHU) provides 2.7 - 13.7W of heating and 2.9 - 11.1 kW of cooling capacity.

The compatible energy source is a Daikin Monobloc Air Source Heat Pump (ASHP), sized and matched with the Unico AHU to achieve maximum energy efficiency and optimal results from the installation.



One of the challenges was the integration of the Unico System with two other heating zones in the home, all using the same heat pump, covering existing radiators and fan convectors on the ground floor. The system has been designed so that the three zones work independently, giving complete flexibility so that higher or lower indoor temperatures can be set upstairs or downstairs if required.

The Unico AHU, conveniently located in the loft space above the bedrooms, takes in air from the outside and filters it before it is delivered into rooms. With this in-built filtration, indoor airborne pollutants including germs, odours, bacteria and pollen are removed. For optimum comfort levels and superior air quality, Unico technology also removes some 30% more humidity than a traditional HVAC system.

## Results

With Unico, both warmed and cooled air is delivered through unobtrusive round ceiling outlets with a temperature differential of no more than +/- 1° C throughout the upper floor and no drafts when in cooling mode. Noise and vibration are minimised with sound-absorbing supply tubing and sound from the AHU is fully isolated. "The Unico System operates very quietly, keeps the temperature of the rooms exactly how we want them and we haven't had to worry about any servicing issues for the first few months," says Lewis.

For heating, a priority for Lewis was to dispense with traditional large surface area radiators, which not only presented a risk of possible scalding, but also took up considerable wall space. This has now been freed up and provides more flexibility in room layouts.



Lewis comments: "Mat Downes at Bell Plumbing Supplies took me, as the end user, through everything I needed to know to get the most from my Unico System. A big plus is that I can control it remotely through the Nest app on my mobile phone, so that when we want a warm house on our return, it's easy to set up. The same will apply, of course, in the summer to ensure the upstairs of our home is cool on arrival."

## Key Features

Installation Date: Summer 2025  
Property Type: Detached Home

System Specifications:  
Unico 2430 Series Air Handling Unit  
Heat Pump: Daikin Monobloc Air  
Source Heat Pump (ASHP)