Unico System Is Perfect For Retrofitting Into 1980's Home

Introduction

Our customer's home required a full new heating system. To reduce the environmental impact of the property, the opportunity was taken to replace the obsolete gas fired boiler system with an Air Source Heat Pump (ASHP) and Unico Heating, Ventilation & Cooling (HVAC) system. This would not only provide heating and hot water but also offered the versatility to cool the home over the Summer.

The property in Worcestershire is an 85 square metre, 1980 three-bedroom detached home with equal floor space on each level. The home already featured double glazed windows, a loft space fitted with 200mm loft insulation and cavity wall insulation. Having good insulation in place from the outset was important and enabled accurate heat loss surveys and highly accurate system sizing to be carried out with a thorough understanding of how heat would transfer through the accommodation.

Strategy

A Worcester Bosch ASHP with weather compensation that added efficiency and adjusts its performance automatically based on external weather conditions was chosen alongside the Unico HVAC system, the system integrates perfectly with the heat pump and is ideal for retrofitting into a home of this type and age.

With a 4.5 kW house heating and cooling load, the compact 1218 Series Unico Air Handling Unit with a chilled water coil was specified and installed out of the way in the loft space.

Final decoration & boxing-in to be completed following installation

The fully insulated and sound-attenuated small flexible supply ducting delivers conditioned air via multiple branches to room outlets on the two floors. It has been conveniently routed above ceilings and inside cavity walls with its small diameter and flexibility making it simple to install. There was also no need to pull up floorboards to get rid of old heating system pipework, so overall the installation caused minimal disruption. In total, 13 round ceiling mounted room outlets feature throughout both levels of the property. All the outlets are finished in white, integrating naturally with the newly decorated rooms and totally discreet in appearance.

3-in-1 heating, ventilation & cooling solution

Results

Perhaps the most important advantage of the Unico system for our homeowner is its versatility. As a three-in-one system, its ability to provide cooling and ventilation alongside heating for the home gives it year-round functionality. Cooling and ventilating in the summer allows windows to be kept closed, ensuring pollen and other pollutants cannot invade and diminish the indoor air quality. With the ability to remove 30% more humidity than conventional air conditioning, condensation build up on windows has also been significantly reduced.

Running the Unico System with the ASHP has enabled the creation of an energy efficient heating and air conditioning system.

The Unico System maintains a comfortable 18°C temperature throughout the whole house. For additional economy, a Mixergy intelligent hot water cylinder has also been installed. Located in the loft alongside the Unico Air Handler, this has allowed an existing airing cupboard to be used for a new shower, extending the existing bathroom.

Joe comments: "The system is designed to be as efficient as possible and it is nice to prove that a standard 1980s built home can have a heat pump and be fitted with a Unico System to provide heating and hot water very efficiently, with no improvements to the insulation. It has been faultless in operation. We will also add solar power and battery storage in our transition to a greener lifestyle."

Key Features

Installation Date: Winter 2024
Property Type: 1980's house
System Specification: 1218 Series Unico Air Handling Unit
Energy Source: Worcester Bosch ASHP
Controls: Controlled via weather compensation through the heat pump
Heat Pump: Worcester Bosch CS2000 air-to-water heat pump
MEV: Standard bathroom extraction.