

brief case study

HEAT PUMP VENTILATION & HOT WATER

Church Farm Piggery was demolished and a four-bedroom Passivhaus was built with lots of sustainable features.

Total Home Environment were asked to provide a solution for heat recovery ventilation and to complete a room-by-room heat loss calculation to see what heating solution was going to be best for their unique home. It was found that the HPV Series could provide most of the habitable areas with space heating, cooling and heat recovery ventilation. A Zehnder Q350 was also specified to make up the shortfall in

ventilation and serving the less habitable spaces, with the addition of a duct heater.

Domestic hot water is supplied via the HPW 300 which is a 300L water cylinder heated via an integral heat pump. It also has a secondary coil providing some under-floor heating to two en-suites and around the perimeter of the living/dining area where there is a lot of glazing. In the depths of Winter, Samita & Sam could have felt a small amount of localised cooling through the glass without this fail safe.

They also wanted to keep their home clean without suffering the noise, lack of suction and expulsion of more dirt than is consumed with a portable vacuum. Samita & Sam were specified an Electrolux Central Vacuum from us too, so they have nothing to lug about, no noise, no smells and no maintenance.



total home environment products chosen for Mukophadhyay barn-style house



HPV Series 1 - providing heat recovery ventilation, space heating & cooling



Electrolux Central Vacuum for dust-free vacuuming



Zehnder Q350 providing some heat recovery ventilation along with some space heating from an inline duct heater



HPW 300 providing all the domestic hot water for the house in addition to UFH in the en-suites and in the living/dining area



THE FACTS:

BUILD TYPE: new build

NO. OF BEDROOMS: 4

REQUIREMENTS: building eco home to Passivhaus so sustainable ventilation solutions required with minimal heating option

APPLIANCES: HPV Series 1, HPW 300 with phone app & Zehnder Q350.

LOCATED: storage areas on 2 floors.

FLOOR AREA: 299m² / 3,218sqft

VOLUME FOR VENTILATION: 1,121m³/hr

WHOLE HOUSE HEAT LOSS: 4.25 kW

TERMINALS: extract x 9, supply x 10

FURTHER APPLIANCE: Electrolux 930 central vacuum

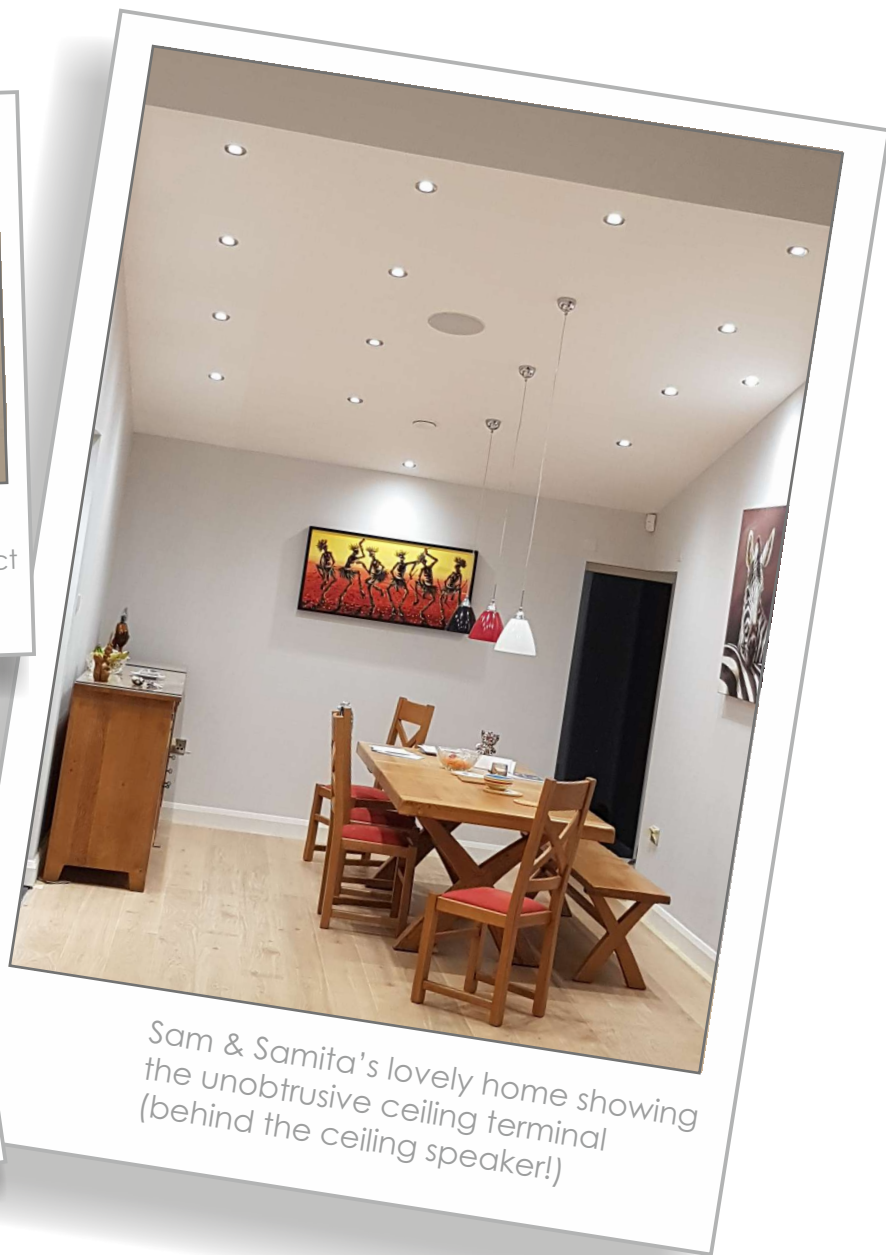
We do more with air...



HPV Series main controller showing fan speeds, fresh air, exhaust, extract and supply temperatures.



HPV Series zone 2 controller



Sam & Samita's lovely home showing the unobtrusive ceiling terminal (behind the ceiling speaker!)



air-source heat pumps | air-to-water heat pumps | central vacuum systems
 heat recovery ventilation | heat pump ventilation | compact service units
 room-by-room heat loss calculations | SAP reports | MCS certification

Make an appointment to experience the products in our office showroom in Moreton in Marsh or at the Build It Education House at Graven Hill, Bicester or visit Stand TV58 at the National Selfbuild & Renovation Centre in Swindon.

