

Heat Recovery Ventilation

Energy efficient ventilation for new homes

With energy costs increasing, more and more houses are being insulated to conserve heat.

Draught proofing, double glazing, high levels of insulation and intermittent thermostatically controlled heating systems are sensible ways of conserving heat and energy. However, the air quality in such sealed dwellings can rapidly fall to an unacceptable level, leading to health hazards through contaminants in the air.

Moist and polluted air, if allowed to remain leads to condensation. This results in the problems of streaming windows, peeling wallpaper, damp clothing and bedding and eventually unsightly mould growth leading to permanent damage of the building fabric.

Mechanical extract fans, with sophisticated sensing systems are often the most cost effective way of controlling levels of indoor contaminants. In order for these systems to work efficiently, a similar amount of air to that extracted must be allowed into the building. A convenient air entry point is not always available leading to reduced ventilation levels.

The Solution

Heat Recovery ventilation units solve these problems in three ways:

- Firstly, the extraction of pollutants and simultaneous intake of fresh air balances the air movement.
- Secondly, the heat energy (up to 90%) of the extracted air that otherwise could be wasted is transferred to the incoming air. The heat exchanger associated within this maintains separate extract and intake air flows and uses no energy. For a room temperature of 20°C, the intake air will be prewarmed to about 15°C from the outside temperature of 0°C.
- Thirdly, heat recovery ventilation will dry the excessive airborne moisture. A cubic metre of air weighs over 1 kilogram and in a bathroom with a temperature of 20°C and 80% Relative Humidity this includes up to 14 grams of water, waiting to condense. At 0°C, with 80% Relative Humidity, the outside air contains just 4 grams of water. So, for every cubic metre of air exchanged the moisture content is reduced by 10 grams per cubic metre using a heat recovery ventilation unit.

The Benefits

Heat Recovery ventilation units provide a warmer, drier, more comfortable home with uncontrolled condensation eliminated. There is also a financial benefit, especially now that VAT has been applied to fuel.

The microscopic droppings of the house dust mite can cause asthma, rhinitis, bronchial and other allergic problems. Heat recovery ventilation can reduce the Relative Humidity to below 70% which inhibits the ideal living and breeding conditions of the house dust mite.

The long term benefit is global. Domestic housing uses a very large percentage of the UK's total energy production so the whole world will benefit from the energy savings gained from using heat recovery equipment, in turn this will reduce the potential of global warming and the greenhouse effect.

Controlled heat recovery meets the demands of today's life style, and sets the trend for the future of ventilation.



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Newform Energy offers a range of heat recovery ventilation systems to suit a wide range of applications. The systems may be installed by our qualified experienced installers or by the builder or self-builder. We specialise in integrating Heat Recovery systems with other renewable technologies to achieve a carbon neutral energy system.

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