Mechanical Ventilation Heat Recovery (MVHR)

MVHR refers to a specialised ventilation system that extracts stale air from a building while simultaneously introducing fresh air from outside. The innovative feature of MVHR systems is the heat exchanger, which transfers heat from the outgoing stale air to the incoming fresh air, thereby pre-warming it before it enters living spaces.

MVHR systems are increasingly popular in modern UK housing due to their dual benefits of enhancing indoor air quality and improving energy efficiency. With rising energy costs and stringent building regulations, these systems play a crucial role in maintaining a comfortable indoor environment while minimising heat loss.

An MVHR unit typically includes two fans, a heat exchanger, and a network of ducts. For instance, in a typical UK home, stale air is drawn from moisture-prone areas such as kitchens and bathrooms, where humidity and pollutants accumulate. This stale air is expelled outside, while fresh air from the outside is drawn in. As this fresh air passes through the heat exchanger, it is warmed by the heat extracted from the outgoing air, reducing the energy required to heat it to a comfortable level.

The adoption of MVHR systems in the UK house building and retrofit sectors represents a significant advancement towards energy-efficient homes. These systems effectively balance the need for adequate ventilation with energy conservation, aligning with regulatory requirements and consumer expectations for sustainable living environments.