What is Decentralised Mechanical Ventilation with Heat Recovery (dMVHR)?

Decentralised Mechanical Ventilation with Heat Recovery (dMVHR) is a ventilation system designed to provide continuous fresh air supply and extract stale air from individual rooms or zones within a building. Unlike centralised systems, dMVHR operates without extensive ductwork, making it ideal for retrofits, extensions, or smaller residential properties. It incorporates heat recovery technology to transfer thermal energy from the extracted air to the incoming fresh air, improving energy efficiency and indoor air quality.

dMVHR is particularly relevant in the UK house building, residential retrofit, and home renovation sectors, where space constraints, building regulations, and energy efficiency targets are key considerations. It is often used in properties where installing a centralised MVHR system is impractical or cost-prohibitive.

Synonyms: Ductless MVHR

Explanation:
dMVHR systems consist of compact units installed in external walls or windows, typically serving a single room or zone. Each unit contains a heat exchanger that recovers up to 90% of the heat from the extracted air, which is then transferred to the incoming fresh air. This process reduces heating demand and maintains a comfortable indoor environment.

Practical Examples:

1. **Retrofit Projects:** In older UK homes, dMVHR is used to improve ventilation without the need for disruptive ductwork installations.
2. **Extensions and Loft Conversions:** dMVHR is ideal for new additions to existing homes, ensuring compliance with Part F of the Building Regulations (Ventilation).
3. **Small Apartments:** In compact urban dwellings, dMVHR provides efficient ventilation without sacrificing valuable space.

Related Terms:

1. **Mechanical Ventilation with Heat Recovery (MVHR):** Centralised systems that use ductwork to ventilate entire buildings.
2. **Part F of the Building Regulations:** UK regulations governing ventilation requirements in new and existing buildings.
3. **Air Permeability:** A measure of how airtight a building is, influencing the choice of ventilation systems.
4. **Heat Exchanger Efficiency:** The percentage of heat recovered by the system, typically ranging from 70% to 90%.
5. **Indoor Air Quality (IAQ):** The quality of air within a building, directly impacted by ventilation systems.
6. **Retrofit Ventilation:** Strategies for improving ventilation in existing buildings, often involving dMVHR.
7. **Energy Performance Certificate (EPC):** A UK document that rates a building’s energy efficiency, influenced by ventilation systems.

Building Regulations and Approved Documents:
dMVHR systems must comply with **Part F (Ventilation)** and **Part L (Conservation of Fuel and Power)** of the Building Regulations. Approved Document F provides guidance on achieving adequate ventilation rates, while Approved Document L focuses on energy efficiency.