

# What is Ductless MVHR (dMVHR)?

**Ductless Mechanical Ventilation with Heat Recovery (dMVHR) is a ventilation system designed to provide controlled air exchange and heat recovery in individual rooms or small spaces without the need for extensive ductwork. It operates by alternately extracting stale air and supplying fresh air through a single unit, recovering heat from the extracted air to pre-warm the incoming air.**

dMVHR systems are particularly suited for retrofitting older properties or extending homes where installing traditional ducted MVHR systems is impractical or costly. These systems are compact, easy to install, and ideal for improving indoor air quality (IAQ) while maintaining energy efficiency. They are often used in single rooms, such as kitchens, bathrooms, or home offices, where localised ventilation is needed.

## **Practical Examples:**

1. **Retrofit Projects:** In a Victorian terrace house with no existing ductwork, a dMVHR unit can be installed in a bathroom to reduce humidity and prevent mould growth.
2. **Extensions:** For a new kitchen extension, a dMVHR system can ensure adequate ventilation without the need for complex ducting through the existing structure.
3. **Single-Room Solutions:** In a home office, dMVHR can maintain a comfortable environment by providing fresh air and recovering heat from expelled air.

## **Synonyms:**

- Decentralised MVHR
- Single-Room MVHR (srMVHR)
- Alternate-Flow MVHR (afMVHR)
- Alternate-Flow Heat Recovery (AFHR)

## **Related Terms:**

1. **Mechanical Ventilation with Heat Recovery (MVHR):** A whole-house system that uses ductwork to provide balanced ventilation and heat recovery.
2. **Passive House (Passivhaus):** A building standard that emphasises energy efficiency, often incorporating MVHR systems.
3. **Indoor Air Quality (IAQ):** The quality of air within and around buildings, particularly concerning occupant health and comfort.
4. **Building Regulations Part F (Ventilation):** UK regulations that set standards for ventilation in new and existing buildings.
5. **Air Changes per Hour (ACH):** A measure of how many times the air in a room is replaced per hour, crucial for effective ventilation.

## **Building Regulations and Approved Documents:**

dMVHR systems must comply with **Building Regulations Part F (Ventilation)**, which outlines requirements for ventilation in residential buildings. The latest revision (2022) emphasises energy efficiency and IAQ, making dMVHR a viable solution for compliance in retrofit and extension projects.