

What is Year-Round Ventilation?

Year-Round Ventilation refers to ventilation systems designed to operate effectively in all seasons, ensuring consistent indoor air quality (IAQ) and thermal comfort. These systems balance the need for fresh air intake with energy efficiency, adapting to varying external temperatures and humidity levels.

In the UK, year-round ventilation is critical for maintaining healthy indoor environments, particularly in residential buildings. It addresses challenges such as condensation, mould growth, and poor air quality, which are exacerbated by the UK's temperate climate. Systems may include mechanical ventilation with heat recovery (MVHR), passive stack ventilation (PSV), or hybrid solutions that combine natural and mechanical elements.

Practical Examples:

1. **MVHR Systems:** Commonly used in new builds and retrofits, MVHR systems extract stale air from kitchens and bathrooms while supplying fresh, filtered air to living spaces. Heat from the extracted air is recovered to pre-warm incoming air, reducing energy loss.
2. **Trickle Vents:** Installed in window frames, these allow controlled airflow, ensuring ventilation even when windows are closed. They are particularly useful in winter when opening windows is impractical.
3. **Demand-Controlled Ventilation (DCV):** Uses sensors to monitor CO₂ levels and humidity, adjusting airflow rates accordingly. This optimises energy use while maintaining IAQ.

Related Terms:

1. **Air Changes per Hour (ACH):** A measure of how many times the air in a room is replaced per hour, crucial for designing effective ventilation systems.
2. **Building Regulations Part F:** The UK regulation governing ventilation in dwellings, ensuring adequate airflow and IAQ.
3. **Condensation Risk Analysis (CRA):** A method used to assess the risk of condensation in buildings, informing ventilation design.
4. **Thermal Bypass:** Uncontrolled air leakage that reduces energy efficiency, often addressed in ventilation system design.
5. **Passivhaus Standard:** A rigorous energy efficiency standard that includes specific ventilation requirements for year-round comfort.