

Trickle Flow

Trickle flow refers to a low continuous extraction rate of air used in ventilation systems, particularly in continuous fan units such as Decentralised Mechanical Extract Ventilation (dMEV), Mechanical Extract Ventilation (MEV) with heat recovery, and Mechanical Ventilation with Heat Recovery (MVHR) systems. This method allows for a steady but minimal airflow, ensuring that indoor air quality is maintained without excessive energy loss.

Trickle flow systems operate by continuously extracting a small amount of stale air from a building while allowing fresh air to enter through passive means, such as vents or windows. This approach helps to manage humidity levels and reduce the risk of mould growth, which is particularly important in the UK's often damp climate. By maintaining a consistent air exchange rate, trickle flow systems can enhance indoor air quality and comfort without the need for high-energy consumption.

In a typical UK home retrofitted with an MVHR system, trickle flow can be employed to ensure that stale air from kitchens and bathrooms is constantly being removed. For instance, during winter months, when windows are often sealed to retain heat, a trickle flow ventilation system can extract moisture-laden air from these areas while simultaneously drawing in drier air from outside. This balances indoor humidity levels and reduces the likelihood of condensation forming on walls and windows.

Consider a newly built eco-home in a suburban area of the UK that incorporates a dMEV system. The architect designed the home to be airtight for energy efficiency, but this posed a risk of poor air quality. By integrating a trickle flow ventilation system, the homeowners were able to maintain a constant airflow, thus preventing the build-up of indoor pollutants while ensuring that energy consumption remained low. The system allowed for adequate ventilation without compromising the home's thermal performance, demonstrating the effectiveness of trickle flow in modern housing solutions.