Trickle Rate

The trickle rate is a measurement used to describe the minimum flow of outdoor air allowed to enter a building through trickle vents. While traditionally seen as a solution for ventilation, there are significant drawbacks to relying solely on trickle vents, particularly in modern energy-efficient homes.

The trickle rate refers to the continuous flow of fresh air that enters a space through trickle vents, typically measured in litres per second (l/s). These vents are designed to provide a minimal airflow to help maintain indoor air quality and manage moisture levels. However, their effectiveness can be limited, especially in environments requiring more robust ventilation solutions.

Limitations of Trickle Vents

1. **Ineffective in High Humidity Situations:** Trickle vents often provide insufficient airflow in areas with high humidity, such as kitchens and bathrooms. For instance, if a bathroom generates a significant amount of moisture during showers, the trickle rate may not be adequate to prevent condensation and subsequent mould growth.
2. **Limited Control Over Airflow:** The airflow through trickle vents is largely passive and may not adjust based on varying indoor air quality needs. This can lead to situations where too little or too much air enters, resulting in discomfort or inadequate ventilation.
3. **Potential for Draughts:** In colder climates, trickle vents can introduce unwanted cold air into living spaces, leading to draughts. This can make homes less comfortable and increase heating costs, counteracting the benefits of energy-efficient design.
4. **Security Concerns:** Trickle vents can be a security risk, allowing potential intruders a point of access or creating vulnerabilities in the building envelope.

Alternatives: ARIA and FLUXO Systems

Given the limitations of trickle vents, systems like **ARIA** and **FLUXO** offer more effective and controlled ventilation solutions.

ARIA

- **Description:** ARIA is a discreet, continuous-running decentralised mechanical extract ventilator specifically designed for wet rooms such as kitchens and bathrooms.
- **How It Works:** ARIA operates continuously at a low speed (trickle mode) to extract stale air. When humidity levels rise above a pre-set threshold, it automatically boosts to a higher extraction rate until the humidity drops back to normal levels.
- **Advantages:**
    - **Humidity Control:** Unlike trickle vents, ARIA actively responds to changes in humidity, ensuring effective moisture removal and reducing the risk of mould.
    - **Energy Efficiency:** By operating at different speeds, ARIA can maintain comfort without excessive energy consumption.

FLUXO

- **Description:** FLUXO is a continuous mechanical fresh air supply unit that provides a balanced approach to ventilation by alternating between supplying fresh air and extracting stale air.
- **How It Works:** FLUXO supplies fresh filtered air from outside for 70 seconds, then reverses

to extract stale air. This cycle occurs continuously, ensuring effective air exchange.

- **Advantages:**
  - **Heat Recovery:** FLUXO retains over 82% of the heat inside the property due to its innovative heat exchanger, making it far more energy-efficient than simple trickle vents.
  - **Continuous Air Quality Improvement:** By actively managing both the supply and extraction of air, FLUXO significantly enhances indoor air quality without the drawbacks associated with trickle vents.

While trickle vents have been a traditional solution for ventilation, their limitations in terms of effectiveness, comfort, and security make them less favourable in modern building practices. Systems like ARIA and FLUXO provide superior alternatives, offering enhanced control over indoor air quality and moisture management. By prioritising these advanced solutions, builders and homeowners can create healthier, more comfortable living environments that comply with modern energy efficiency standards.