Are MVHR units noisy?

Mechanical Ventilation with Heat Recovery (MVHR) units can produce noise, but the level of noise largely depends on the design, installation, and quality of the unit. In the UK, Building Regulations Part F sets noise limits at 30 dB LAeq,T for bedrooms and living rooms, and 35 dB LAeq,T for kitchens and bathrooms. Proper installation, quality components, and noise mitigation measures ensure quieter operation, making MVHR systems suitable for comfortable living environments.

Understanding MVHR Noise Levels

What Contributes to MVHR Noise?

MVHR units generate noise primarily through their fans, air movement, and vibrations. The noise level varies depending on factors such as:

- **Fan Speed:** Higher speeds increase noise, while lower speeds reduce it.
- **Unit Size:** Larger units operating at lower speeds are generally quieter.
- **Installation Quality:** Poorly installed units can amplify noise due to vibrations and rigid connections.
- **Component Quality:** High-quality fans, thermal insulation, and sound attenuators minimise noise.

UK Building Regulations and Noise Limits

The UK's Building Regulations Part F mandates specific noise limits for MVHR systems to ensure acoustic comfort:

- **Bedrooms and Living Rooms:** Maximum 30 dB LAeq,T.
- **Kitchens and Bathrooms:** Maximum 35 dB LAeq,T.
  These limits ensure that MVHR systems operate quietly enough to avoid disrupting daily activities or sleep.

Minimising MVHR Noise

Design and Installation Best Practices

1. **Choose the Right Unit:** Opt for MVHR systems with DC fans and high-quality insulation.
2. **Proper Sizing:** Ensure the unit is appropriately sized for your property to avoid overworking the system.
3. **Anti-Vibration Mounts:** Use mounts to reduce vibrations transmitted to the building structure.
4. **Duct Layout:** Avoid sharp bends and ensure airtight seals in duct joints to minimise air turbulence and noise.

Noise Mitigation Measures

- **Sound Attenuators:** Install these in ductwork to reduce noise transmission.
- **Acoustic Insulation:** Use insulation around the unit and ducts to dampen sound.
- **Regular Maintenance:** Clean filters and check for wear and tear to prevent increased noise

levels over time.

Types of MVHR Noise

Breakout Noise

This is the noise emitted by the unit itself, typically measured within a 3-metre radius. Proper insulation and anti-vibration measures can significantly reduce breakout noise.

Inline Noise

This is the noise heard in the ventilated room, usually 1-3 metres from the air valve. Ensuring smooth airflow and using sound attenuators can minimise inline noise.

Comparing MVHR Systems

Feature	Quiet Operation Tips
Fan Type	DC fans are quieter than AC fans.
Unit Size	Larger units at lower speeds are quieter.
Installation Quality	Use anti-vibration mounts and flexible ducts.
Noise Mitigation	Install sound attenuators and insulation.

Why Choose a Quiet MVHR System?

A well-designed and installed MVHR system ensures:

- **Improved Comfort:** Minimal noise enhances living conditions.
- **Energy Efficiency:** Quieter units often operate more efficiently.
- **Health Benefits:** Continuous ventilation improves indoor air quality, reducing allergens and pollutants.

Investing in a high-quality MVHR system with proper installation ensures quiet operation and a healthier living environment.