

What is BS EN 13142:2021 (formerly BS EN 15665)?

BS EN 13142:2021 is the British Standard adoption of the European standard specifying the **performance characteristics, testing methods, and classification** for components and products used in **residential ventilation systems**. It is a crucial reference for manufacturers, designers, and consultants to ensure that fans, air handling units (AHUs), ductwork, and other ventilation-related components meet minimum requirements for safety, indoor air quality (IAQ), **energy efficiency (SFP and heat recovery efficiency)**, and **acoustic performance (noise levels)**.

This standard provides a standardised framework for declaring performance data, which is essential for accurate system design, especially when calculating:

1. **Specific Fan Power (SFP):** Used to verify compliance with energy performance requirements outlined in the **UK Building Regulations Approved Document F (Ventilation)**, ensuring fans don't consume excessive energy for the amount of air they move.
2. **Heat Recovery Efficiency:** For Mechanical Ventilation with Heat Recovery (**MVHR**) units, the standard specifies how the thermal performance must be measured and declared. This directly impacts the dwelling's overall energy performance (e.g., in SAP calculations).
3. **Noise Emission:** It sets out testing procedures to measure the sound power level, ensuring the installed equipment doesn't cause acoustic discomfort for occupants, an important consideration for systems like continuous Mechanical Extract Ventilation (**CMEV**).

Practical Application in UK Residential Projects

In the UK residential sector, compliance with **Approved Document F (AD F)** of the Building Regulations requires ventilation systems to be installed and commissioned in accordance with relevant standards.

- **New Builds & Extensions:** When a designer specifies an **MVHR** unit for a new-build house (System 4 in AD F), they will rely on the manufacturer's performance data, which must be measured and classified according to **BS EN 13142:2021** to verify that the unit meets the minimum required heat recovery efficiency and maximum SFP stipulated in AD F (e.g., AD F 2021 specifies a maximum SFP for MVHR).
- **Retrofit & Renovation:** If a homeowner is insulating their property and making it more airtight (deep retrofit), an existing intermittent extract system might be upgraded to a continuous system like **CMEV** (System 3 in AD F). The consultant would select a fan that, based on its **BS EN 13142:2021** data, has a suitably low SFP and noise level to be compliant and acceptable to the occupants.