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).
- 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.