What is a Decentralised Heat Recovery Unit (dHRU)?

A Decentralised Heat Recovery Unit (dHRU) is a mechanical ventilation system designed to recover heat from stale, outgoing air and transfer it to fresh, incoming air without the need for extensive ductwork. It is typically installed in individual rooms or specific zones within a building, making it an ideal solution for retrofitting or extending existing properties.

dHRUs are commonly used in the UK residential sector, particularly in home renovations, extensions, and retrofits, where centralised systems are impractical or too costly. They align with the UK's Building Regulations, particularly Approved Document F (Ventilation), which mandates adequate ventilation to ensure indoor air quality.

Synonym(s):

- Room-based Heat Recovery Ventilator
- Localised Heat Recovery System

Related Terms:

1. **Mechanical Ventilation with Heat Recovery (MVHR):** A centralised system that recovers heat from exhaust air and distributes it throughout the building.
2. **Passive House Standard:** A rigorous energy efficiency standard often incorporating dHRUs to minimise heat loss.
3. **Air Tightness:** The measure of how well a building prevents uncontrolled air leakage, critical for the efficiency of dHRUs.
4. **Building Regulations Part L (Conservation of Fuel and Power):** Sets energy efficiency requirements, influencing the design and installation of dHRUs.
5. **Condensation Control:** A key benefit of dHRUs, reducing moisture build-up and preventing mould growth.

Explanation and Practical Examples:
dHRUs are particularly effective in UK homes where retrofitting centralised systems is challenging due to space constraints or structural limitations. For instance, in a terraced house extension, a dHRU can be installed in the new living space to ensure efficient ventilation without disrupting the existing structure.

These units are also beneficial in older properties with poor insulation, as they help maintain indoor air quality while minimising heat loss. For example, a Victorian-era home undergoing renovation could use dHRUs in key areas like kitchens and bathrooms to meet modern ventilation standards without compromising the building's character.