

Recognition and guidance to SAP assessors for the PKOM4A unit in SAP2009, 2012 and 10.2

Technology

The PKOM4A unit is a single compact unit which combines mechanical ventilation with heat recovery, space heating and comfort cooling, hot water production and storage. The unit incorporates two compressors and fluid circuits, which can be treated as separate systems.

For water heating functionality, the product can be classed as a hot water only heat pump. While exhaust air MVHR systems typically undergo testing at source temperature of 20°C, the PKOM4A's design includes a damper that allows mixing of outdoor and extract air. Therefore, it was agreed that the hot water only test should be conducted at outdoor temperature 7°C, which aligned with the requirements for air source heat pumps.

In space heating mode, the damper remains closed, preventing outdoor air from entering the evaporator and eliminating the mixing of outdoor and extract air.

Recognition

To recognise the technology in SAP, the technology is to be modelled as two heat pumps.

The space heating is selected in main heating system 1 where the software will automatically use the building dwelling heat loss to calculate the PSR (Plant Size Ratio) and airflow rate to look up the corresponding efficiency. The water heating performance is recognised as a hot water only heat pump.

SAP Assessor Instructions

1. Set the PKOM4A (space heating) to main system 1
2. Set the PKOM4A (domestic hot water) to main system 2 and set the space heating fraction to 0
3. In the water heating section of the software, select water heating as from main heating system 2
4. Set the mechanical ventilation to category 'balanced whole-house mechanical ventilation with heat recovery'