

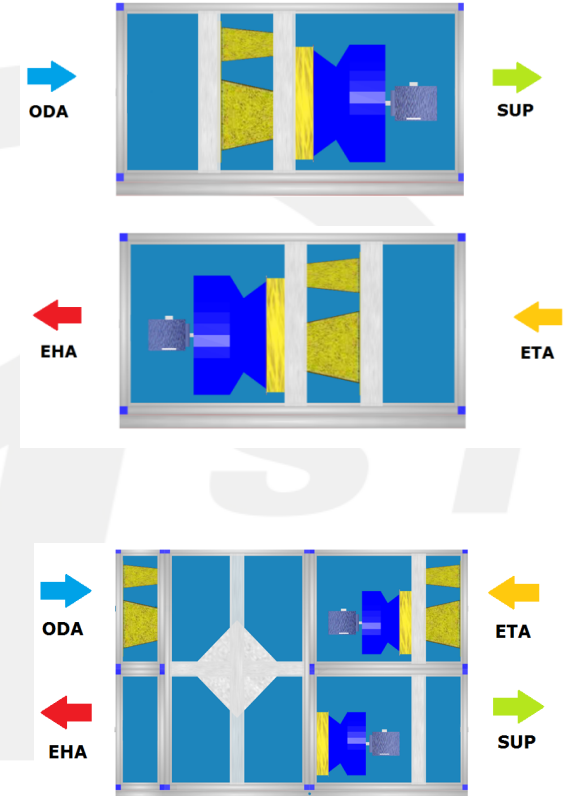
# Eco-Design Directive

2009/125/EC (ErP directive)

- **The key objective is to reduce carbon emissions across the EU by 20% before 2020, it is now UK law and policed by the NMRO (was Weights & Measures)**
- **Split in a tranche of efficiencies for products delivered after January 2016 and increasing levels after January 2018**
- **It does not recognise all the significant work in the UK that we have undertaken in compliance with the more contextual and relevant Part L 2013 Regulations, but operates in tandem with it.**

- It takes an abstract form for creating a datum efficiency for only three key components within an Air handling Unit being:-
  - Combined Fan, motor and inverter efficiency (or ECM Fan)
  - Filter default F7 supply & M5 return air
  - Heat recovery device RAC 63% PHX and Wheel 67% (2016)
- It ignores when a design was initiated, or planning approved and is based solely on delivery date for the Product.
- It disregards buildings where heat recovery is impractical or impossible ie listed buildings, Healthcare including infection control & even buildings designed with a **zero** carbon footprint!

- Applies to units over <math><70\text{ l/s}</math>
- Applies to systems with mechanical supply and extract with more than 10% fresh air
- There are definitions of UVU Unidirectional Ventilation Units (units with separate supply and exhaust elements) that have non ratified definitions creating significant debate as to requirement. These must comply with fan efficiency.
- And Bidirectional BVU (where units are combined into a single arrangement) in this case it is clear units must have heat recovery and comply with efficiencies stated.



Efficiencies - Summary			
		2016	2018
<b>Heat Recovery</b>			
Run Around Coils		63%	67%
Thermal Wheels, Plate HX & Heat Pipes		67%	73%
<b>Fan Efficiencies</b>	Input power less or equal to 30kW	$6,2\% * \ln(P) + 35,0\%$	$6,2\% * \ln(P) + 42,0\%$
	Minimum fan efficiency ( $\eta_{vu}$ ) % Include inverter and motor %	Input power higher than 30kW	56,1 %

**\*\* Mixing boxes alone are not considered heat recovery \*\***

**More Comprehensive details available as part of a full CPD**

- The following applications (non-exhaustive list) are considered to be process ventilation and are therefore out of scope of the regulation:
  - **Swimming pools.**
  - Agricultural applications.
  - Professional kitchens.
  - **Data centres, server rooms.**
  - Machine exhaust.
  - **Recirculation units in clean rooms.**
  - Heat dissipation, e.g. compressor rooms, generator rooms, CHP-rooms, Televisions and other studios with high lighting heat load.
  - Foundries, forging processes.
  - Halls with industrial furnaces.
  - Paper production.

- **Ventilation systems that include a heat exchanger and an integral heat pump for heat recovery (i.e. Enviroflow units) are exempt from Lot 6.**

**Note:** This type of unit falls into the scope of Lot 21: Central heating products using hot air to distribute heat which is applicable from 2018.

**Note:** The exception does not include AHU's with an external heat pump condenser. This type of unit will need to be compliant with the requirements of Lot 6

- **Recirculation only units are also exempt.**

**Unless:** the unit has an outdoor connection and the fresh air rate is higher than 10% of the total airflow

**Note:** Secondary or recirculation air is not considered ventilation.