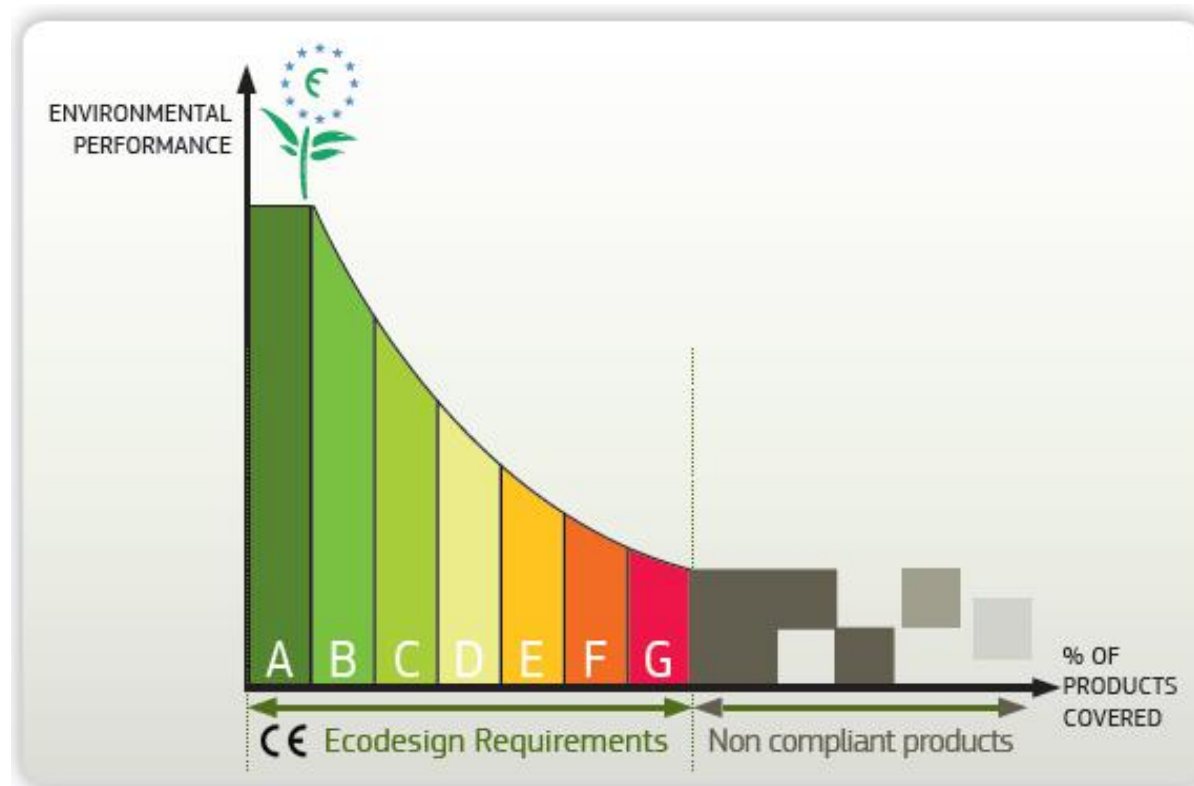
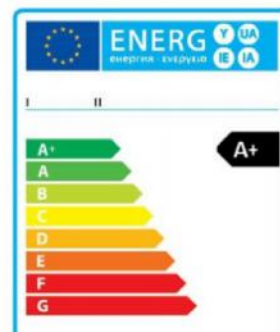


Ecodesign directive

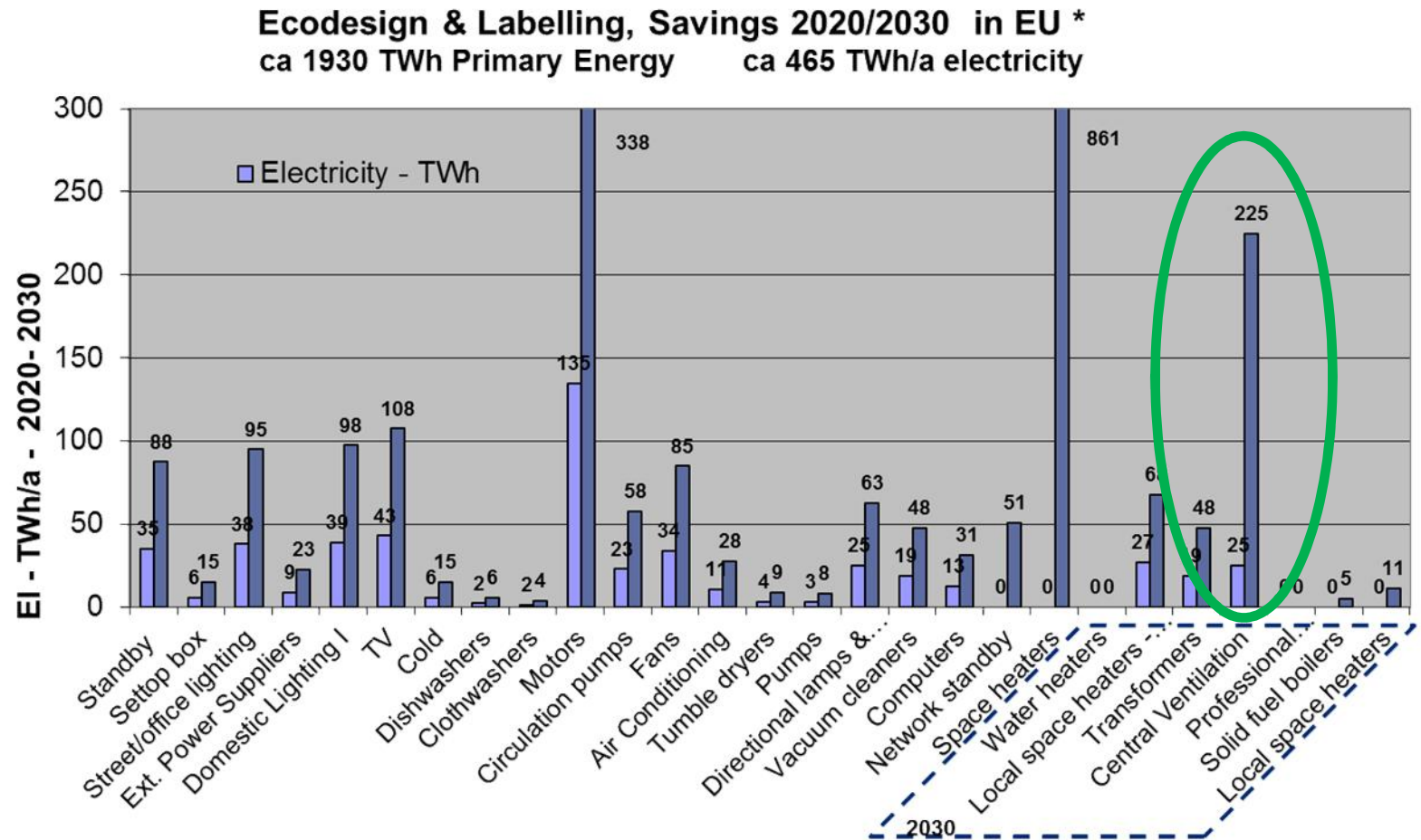
Ecodesign Directive sets minimum energy performance on products and ban the most energy and resource-intensive products in the EU market.



Ecodesign directive



Energy consuming products



Källa: Energimyndigheten

Ventilation in building and households - Lot 6 och Lot 10

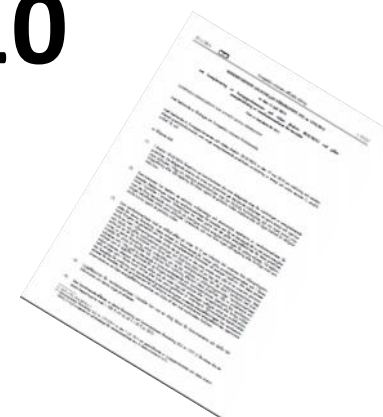


Lot 6



Lot 10

Commission Delegated Regulation (EU) No 1253/2014
Commission Delegated Regulation (EU) No 1254/2014



Commission Delegated Regulation (EU) No 1253/2014



We believe that this regulation good for Fläkt Woods because it is in line with our strategy to develop products with low energy consumption.

We have invested a lot of resources to ensure that we have the products needed to meet the requirements of Regulation



The most important to remember

Regulation (EU) No 1253/2014

Always frequency converter

Supply and exhaust air unit must have a heat recovery system
Heat recovery systems must have a thermal bypass.

Lowest thermal efficiency ($\eta_{t\_nr\dot{v}u}$) for all *liquid coupled heat recovery systems*

January 2016: 63%

January 2018: 68%

Lowest thermal efficiency for all Rotary and Plate heat recovery systems:

January 2016: 67%

January 2018: 73%

New definition for SFP to be taken into consideration: SFP_{int}

Minimum level depending on temperature efficiency of the heat recovery system

Limitations and division

Out of scope:

- ✓ For explosive atmosphere
- ✓ For emergency use
- ✓ Process ventilation
- ✓ Temperature $< -40\text{ }^{\circ}\text{C}$, $> +65\text{ }^{\circ}\text{C}$ (ambient) , $> +100\text{ }^{\circ}\text{C}$ (air)
- ✓ Supply voltage $> 1000\text{ V AC}$ or $> 1500\text{ V DC}$
- ✓ Toxic, corrosive, flammable or abrasive environments
- ✓ Include heat exchanger and heat pump for heat recovery
- ✓ Classified as range hoods (kitchen appliances)

Non-Residential Ventilation Units = NRVU

$Q_{\max} > 250\text{ m}^3/\text{h}$

Residential Ventilation Units = RVU

$Q_{\max} \leq 250\text{ m}^3/\text{h}$ $250 < Q_{\max} \leq 1000\text{ m}^3/\text{h}$ "exclusively residential"

250
 m^3/h

1000
 m^3/h

Process ventilation:

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

Recirculation air:

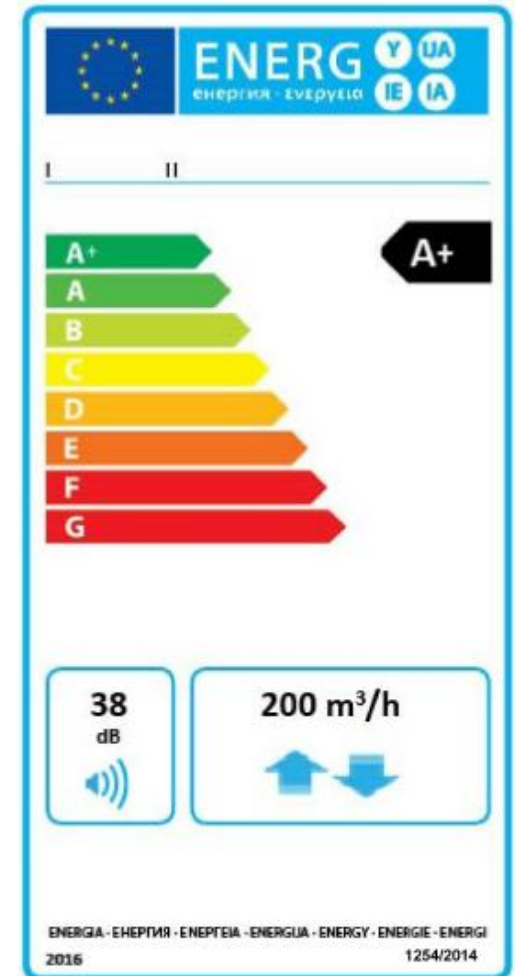
- Secondary or recirculation air is not ventilation. These products are air heating/cooling systems according LOT 21. If the unit is only operating in these conditions, the units are excluded.
- In case there is an outdoor air connection (with significant amount of minimum outdoor air $\geq 10\%$ during regular operation (not in heat up modus etc.)), the unit is included and the declaration shall be as follows.

Requirements on the product – not on the installation



It is the manufacturer who is responsible for delivering a product that fulfills the Regulation

Energy Labeling Requirements for (small) ventilation units for homes

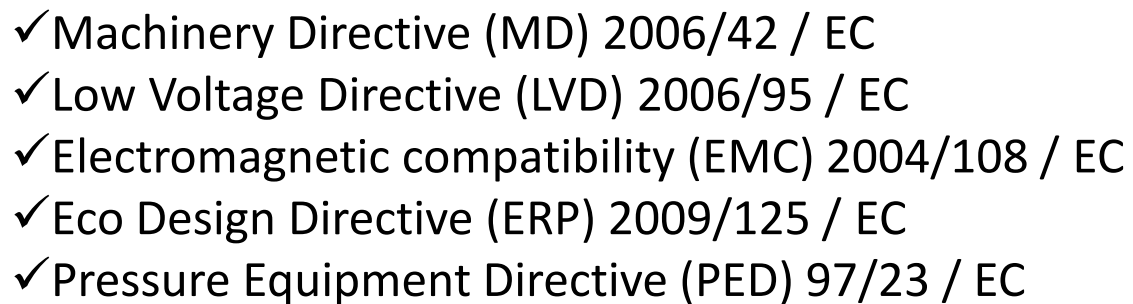


Requirement for documentation

Under Article 4 paragraph 2, the units meet the information requirements set out in Annex V of the Regulation.

- Recycling instructions required by paragraph 3





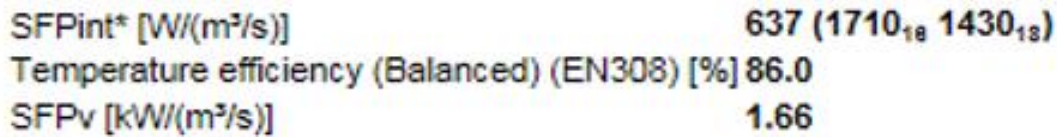
A safe way to know that a manufacturer meets the legal requirements is to use Eurovent-certified products –
Fläkt Woods AHU product are Eurovent certified



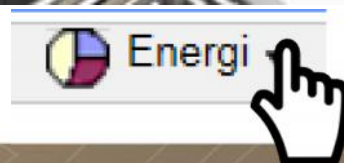
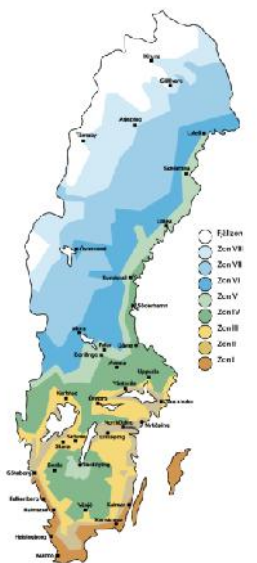
Energy marking according to Eurovent



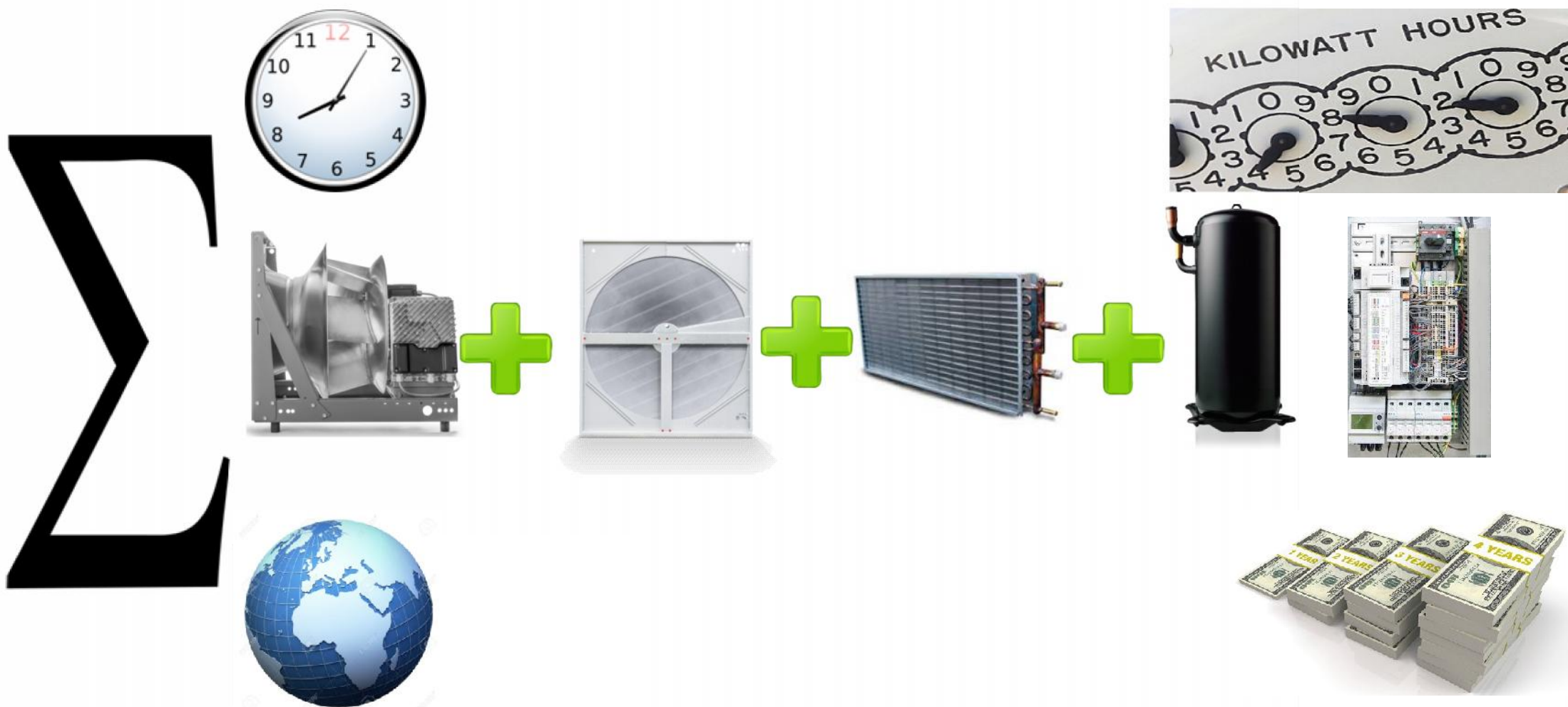
- Non residential AHUs
- Eurovent
- Energiclasses

17





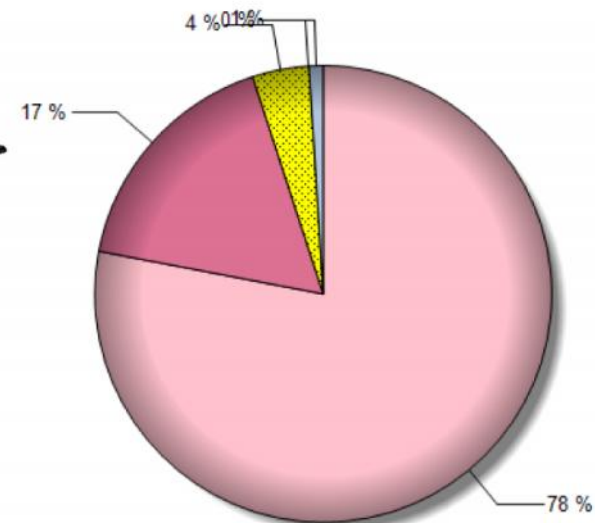
Energy calculation in Acon



Energy recovery



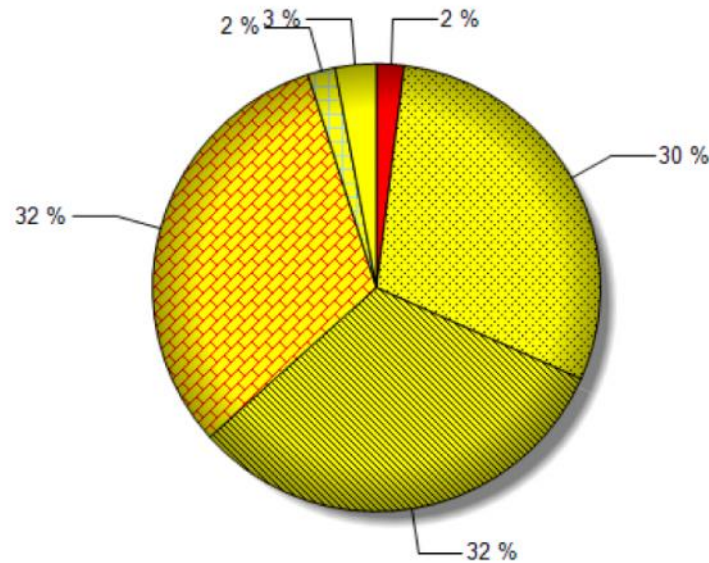
Årlig energiåtervinning



Energy consumption



Årligt energibehov



- Värme, 978 kWh
- Tilluftsfläkt, 16132 kWh
- Frånluftsfläkt, 17361 kWh
- Kompressorenergi, värme, 17238 kWh
- Kompressorenergi, kyla, 994 kWh
- Annan utrustning, 1879 kWh

