Aerothermal heating system

The aerothermal system is one of the high performance systems used to heat a building. **It is based on extracting free energy from outside using a high-efficiency heat inverter pump**. To do this, an exterior unit is required and one or several interior units.

Functioning

A conventional heat pump is used to heat or cool air in the relevant rooms; in general, this is through direct expansion or air-to-air systems.

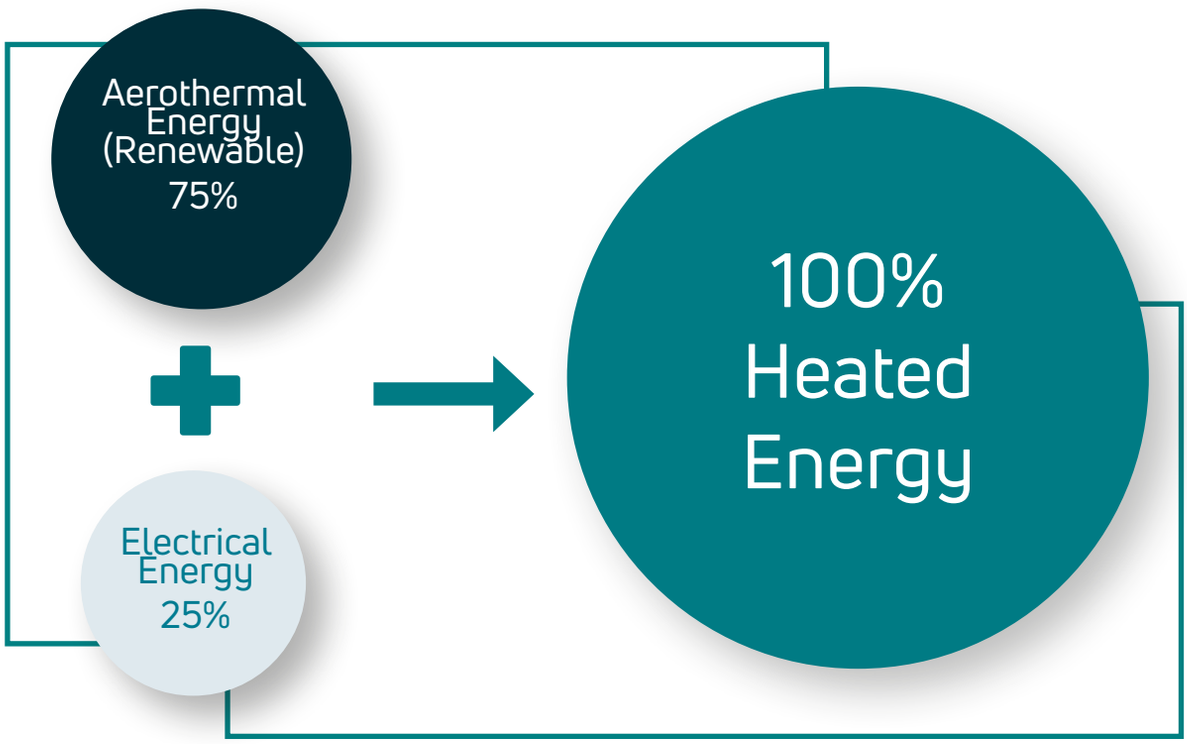
In aerothermal systems, the heat pumps are air-to-water. They extract the heat, or rather, the energy existing in the **exterior air**, and pass it on to water which supplies the domestic hot water and/or heating system. These pumps are designed and built to obtain **maximum performance in severe weather conditions**, in summer and winter.

Even at low temperatures, air contains energy that is absorbed by the coolant that circulates in the circuit between the exterior and interior units.

Energy Efficiency of the Aerothermal Equipment

Aerothermal heat pumps are very high performance. The maximum coefficient of performance is around 4 or 5, or higher, depending on the manufacturer. This means that, for each electrical kWh consumed, the aerothermal equipment can produce 4-5 thermal kWh in optimal conditions.

Up to 75% of the necessary energy for its functioning comes from renewable energy (exterior air) and only up to 25% is electrical consumption (ventilator and compressor).



As with all heat pumps, an aerothermal system **is ideal for temperate climates**, as its performance decreases as the exterior temperature drops.

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Advantages of an Aerothermal system

- High efficiency and lower operating costs
- Simple installation
- Maximum savings with low temperature heating systems (under floor heating, low temperature radiators)
- Cold air (cooling) can be obtained in summer by reversing the cycle
- Clean energy. Low CO_2 emissions
- It requires little space, which is ideal if there is no boiler room
- Does not need smoke evacuation chimneys
- Recommended for those locations without a natural gas supply
- Medium-low return periods