

Air source **heat pumps**

environmentally friendly
heating systems



***Guernsey
Electricity***

Why use air source heat pumps?

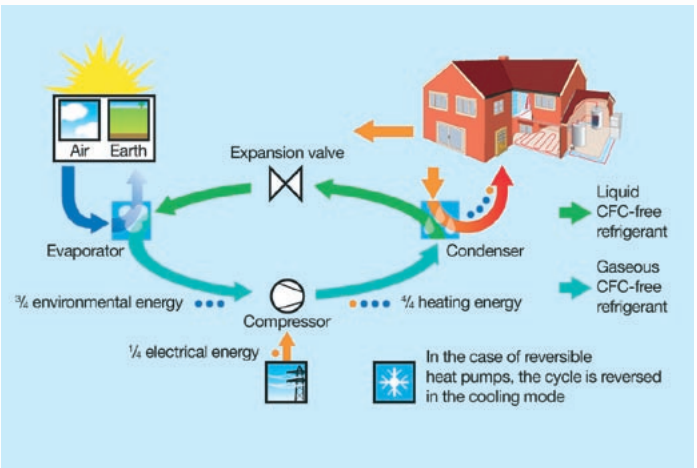
By tapping into the inexhaustible supply of energy stored in ambient air, heat pumps can supply much more energy than they consume and help reduce our reliance on traditional, CO₂ generating fuels. Unlike a gas or oil-fuelled boiler, most of the energy used is extracted from the environment, and only a small amount of electricity is required to drive the heat pump's compressor.

For every 1kW of electricity used to run the heat pump, up to 4kW of useful heat is provided, giving it an efficiency of up to 400%.



How do they work?

Heat pumps are relatively quiet, fully automatic, virtually maintenance free and are one of the safest heating systems available today as there's no risk of gas leak or spillage.



Essentially they work like refrigerators in reverse, absorbing energy from the environment and transferring it to a refrigerant inside the heat pump (evaporator). The subsequent rise in temperature is then increased significantly by using a small amount of electricity to compress the refrigerant, before a heat exchanger (condenser) extracts this heat to use in heating and hot water systems.

What are the benefits?

- Can be utilised all year round between +35°C and -25°C.
- Always available and inexhaustible source of heat.
- No requirement for the cost and land area of ground source heat pumps.
- Ideal for new build or retro fit applications, especially where space is limited.
- Can be used for heating, cooling, domestic hot water and swimming pools.
- Suitable for either outdoor or indoor installation.



Protecting the environment

Whenever fossil fuels are burned, carbon dioxide (CO₂) is released. These emissions are now widely acknowledged as being the principle contributor of the greenhouse effect which is leading to long-term global climate change.

Locally, domestic heating is a major source of these emissions. Many heating systems have been based on the combustion of oil or gas, both fossil fuels, that also result in the release of large amounts of sulphur dioxide and nitrogen oxide, as well as soot and other pollutants. A typical gas or oil-fuelled boiler in an average family house will emit as much as three to four tonnes of CO₂ per year.

However using an air source heat pump can reduce CO₂ and other harmful emissions by as much as 75%. They achieve this by extracting the energy required for heating and hot water directly from the air, which can significantly contribute to protecting the environment and at the same time help cut energy bills.



For more information please visit:
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