

The Eco Home Air Source Heat Pump F.A.Q.

What is an Air Source Heat Pump?

It is a renewable energy system that provides heating and hot water using free solar energy from the air. This energy is converted to a usable temperature and can then provide all your heating and hot water requirements.

How do Air Source Heat Pumps work?

They take energy from the air using an Air Handling Unit. This box is situated outside and contains a large fan that draws air into the unit, transferring the energy in the air through large heat exchangers. From there, the process is the same as a Ground Source Heat Pump. They work like a fridge by moving energy from one place to another. For example, a bottle of wine brought from your local supermarket is at room temperature. If you put it in your fridge and wait a few hours it will be cold enough to drink. If you touch the back of your fridge during that time you will feel heat. The fridge has taken the low temperature energy out of the wine, compressed it up to a higher temperature and in effect has warmed the kitchen up slightly. By using the same process Heat Pumps remove solar energy stored in either the earth, air or water around your building, compress it to a higher temperature and transfer it into your central heating system and hot water tank. They are also known as geothermal, ground source, earth energy, air source, water source heat pumps.



Does the Air Source Heat Pump work all year round?

The system performs down to air temperatures of -20 °C which means that they are more than suitable for installations within the UK. Hot water and Heating can be provided 365 days a year. The hot water is produced without the aid of electrical immersions and at 55 °C is more than hot enough for baths and showers.

How long do the Air Source Heat Pump units last?

Each Air Source Heat Pump is designed to operate for at least 20 years.

How much annual maintenance is required on an Air Source Heat Pump?

No annual maintenance is required.

How much noise do Air Source Heat Pumps generate?

Our Air Source Heat Pumps are split into 2 units. The Heat Pump (that sits either in a utility room or garage) and the Air Handling unit. Noise levels generated from this unit are in the region of 42dB at a 1 metre distance, similar to a large American style refrigerator. The Air Handling Unit can sit up to 30m away from the property. This generates around 50dB at full fan speed at 1 metre distance. This is similar to the fan noise of an air conditioning unit.

Where are Air Source Heat Pumps located?

Once again, our Air Source Heat Pumps are split into 2 units. The Heat Pump and water tank that sits either in a utility room or garage, and the Air Handling Unit that can sit up to 30m away from the property. All essential components are located in the heat pump, indoors. This means that they are not exposed to the wind and weather and there are no heat losses outside the house.

How much space do I need for my Air Source Heat Pump?

The heat pump unit has the same footprint of a dishwasher and is 1.8m tall. Space of 300mm should be allowed to one side of the unit to connect the pipes coming from the Air Handling Unit outside. The Air Handling Unit requires a footprint of 1.2m x 0.7m outside.

Will it provide enough hot water for baths showers & domestic hot water?

With the correct design and equipment, all domestic hot water requirements would be provided by the air source or ground source heat pump throughout the year. Heat pumps produce water at a lower temperature than boiler systems. Instead of water that may be scalding water produced is hot enough for all normal domestic requirements. You will notice that you do not have to add as much cold water to your baths and showers. The aim is to Save money and energy with either an air source or ground source system. There is no point in taking water to temperatures that can't be used anyway (above 55°C).

Can I heat my swimming Pool with an Air Source Heat Pump?

For new pools and existing swimming pools the current heat exchanger would need to be changed.



(Above) Air Source Pump



Will I need a new boiler?

In most cases an Air Source Heat Pump can provide all hot water and heating requirements, without the need for top-up from a boiler. However a boiler could be connected in situations where the Air Source Heat Pump is not large enough to meet the demand in colder weather.

How much hot water is produced each day by an Air Source Heat Pump?

Hot Water is stored and made available in pressurised tanks allowing for ample daily usage requirements. The systems provide large amounts of hot water quickly and at low cost.

How many heat pumps would I need for a large building?

One air source heat pump can provide heating and hot water for a new build of over 400m². For larger buildings more than one Air Source Heat Pump may be required. A bank of up to 5 Air Source Heat Pumps can be installed to provide full coverage.

How much do they cost?

Air Source Heat Pumps cost a little more than a boiler but the payback period can be as short as 4-5 years and save you up to 75% compared to traditional methods.

How much will I save using an Air Source Heat Pump?

Savings on fuel bills can be in the region of 75% compared with traditional heating systems.

How green are Air Source Heat Pumps?

A reduction of CO₂ emissions of up to 75% would be expected. The Energy Efficiency rating assessments of new builds using Air Source Heat Pumps rated as "A" which is the highest level for heating and hot water production. An additional benefit is the residual value to the property in the event of a transfer of ownership. Air Source Heat Pumps have a CoP (Coefficient of Performance) of 3:4. This means for every unit of energy consumed by the

Air Source Heat Pump you would get a return of over 3 usable units of usable energy.

Do Air Source Heat Pumps require single phase or three phase electrical supply?

Air Source Heat Pumps can be powered by both types of supply within the Voltage parameters of the building.

Contact Us

Eco Home Services Ltd
Unit 2
17b Guest Avenue
Poole
Dorset
BH12 1JA

Tel: 0800 242 5185

www.ecohomeservicesltd.co.uk

Company No. 6713362

