

**6 Bedroom House
Ingleton, Barnard Castle, County Durham.**

HEAT FROM THE SUN & AIR—SOLAR THERMAL & AIR SOURCE HEAT PUMP



Daikin Altherma 16KW Air Source Heat Pump & Schuco Solar Thermal

We were contacted in June 2008 and our clients were interested in reducing their heating bills and going green for an existing house in Ingleton.

After a site visit it was found to be most cost effective to install an Air Source Heat Pump, and complement the system with a Solar Thermal Solution, for all their hot water and heating requirements.

For this installation we were confined to a small airing cupboard to house the domestic hot water cylinder so we had one specially made for the job!

The Air Source Heat Pump works in a similar manner to a Ground Source, but takes the heat from the outside air.



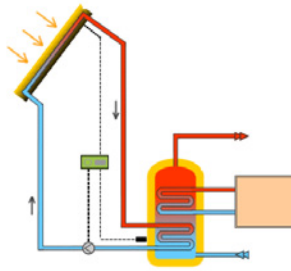
Above: showing three solar panels integrated with an air source heat pump



Above: showing the Daikin Altherma Air Source Heat Pump (outdoor unit)

Solar Thermal - How does it work?

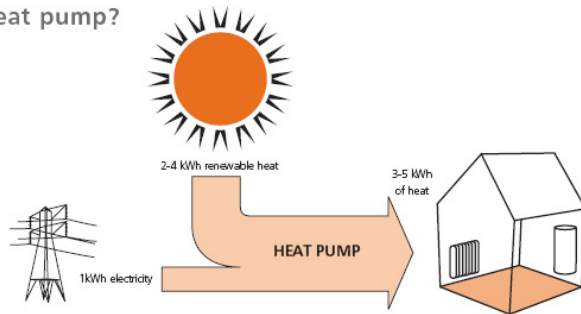
The solar collectors on the roof transfer the heat radiation from the sun through a copper back plate and into an anti-freeze based fluid in copper pipes, which pumps through to the bottom coil in the hot water cylinder. This heats up the water in the cylinder and switches off when the water is up to temperature. A system should provide 50 to 70% of the domestic hot water needs per year. The beauty of a solar thermal system means that your boiler doesn't need to be on in the summer for domestic water needs.



The Benefits

- Provides free hot water heating
- Extends your boiler lifespan
- Adds value to your property

What is a heat pump?



Key Features:

- 30-50% reduction in co2 emissions
- Low running costs
- Low maintenance
- Low noise—unobtrusive and quiet
- Perfect for under floor heating integration
- Helps achieve 3 star rating in the code for sustainable homes
- Has a Co-efficient of Performance (COP) of 3.6 at 35 degrees flow temperature

A heat pump extracts low temperature energy from the environment and increases its temperature for heating purposes. Heat pump efficiencies are normally quoted as the coefficient of performance of the system, these are typically in the range 3 to 5. In other words, extracting heat from renewable sources requires just 1kW of electrical input in order to generate 3kW to 5kW of heating output. Heat pump systems therefore, are 3 to 5 times more efficient than fossil fuel boilers and are more than capable of warming a house completely, even during the lowest winter temperatures. The increasing popularity of these heating systems is reflected by their overwhelmingly successful application in the cold climates of Scandinavia.

Millions of Heat Pumps are installed across Europe and the market is growing rapidly due to increasing awareness of the system's obvious benefits. Recent research indicates that during the last five years alone heat pump sales have doubled'.

Customer testimonial:

Revolution Power staff proved approachable, knowledgeable and willing to provide information and answers to our bespoke needs from the outset. We were kindly offered the possibility of seeing a locally installed system at a nearby residence and soon after viewing this, and liking what we saw, we felt confident to commit to the process.

Wayne and his team were professional, efficient and seen to be highly skilled at their job and the installation process was smoothly done. Any questions thereafter have been met with immediate responses. Follow up inspections were undertaken with similar efficiency and clarity of purpose.

I would recommend it to be considered by all households - based on our experience. Whilst the financial benefits are tangible, the comfort of our house in the winter and the knowledge that the energy source is no longer reliant upon fossil fuels are all factors that serve to underpin our decision to make the change.

Dr C S

revolutionpower



SOLAR · HEAT PUMPS · CONSULTANTS

Technology Court, Bradbury Road
Aycliffe Ind. Park, DL5 6DA

www.revolutionpower.co.uk

tel: 01325 320910 email: info@revolutionpower.co.uk