DAIKIN

altherma

HIGH TEMPERATURE HEATING SYSTEM

Changing the way we heat our homes

- Can Achieve 80°C Flow
- COP of 3 at Water Flow Temp 65°C
- Substantial Saving on Energy Bill
- Renewable Energy from Ambient Air
- Keep Existing Radiators
- CO2 Emission Reduction
- No Carbon Monoxide Production

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Daikin Altherma High Temperature FOR RENOVATIONS

AIR TO WATER HEAT PUMP

SPLIT SYSTEM

A1/OUTDOOR UNIT
EFFICIENT USE OF ENERGY FROM THE AIR

Daikin Altherma uses a natural source of energy. The outdoor unit extracts heat from the outside air and raises its temperature to a level high enough to supply heating. This heat is transferred to the indoor unit via refrigerant piping.

A2/INDOOR UNIT:
THE HEART OF THE DAIKIN ALTHERMA SYSTEM

The indoor unit receives the heat from the outdoor unit and further increases the temperature, allowing water temperatures up to 80°C for heating through radiators and for domestic hot water use. Daikin's unique cascade compressor approach to the heat pumps (one in the outdoor unit/one in the indoor unit) means optimum comfort at even the coldest outdoor temperatures, without the need for an electric back up heater.

Available capacities for Daikin Altherma High Temperature Split
indoor unit / outdoor unit: EKHBRD /ER(R/S)Q
heating capacity: 11~16 kw

EXTRA COMFORT

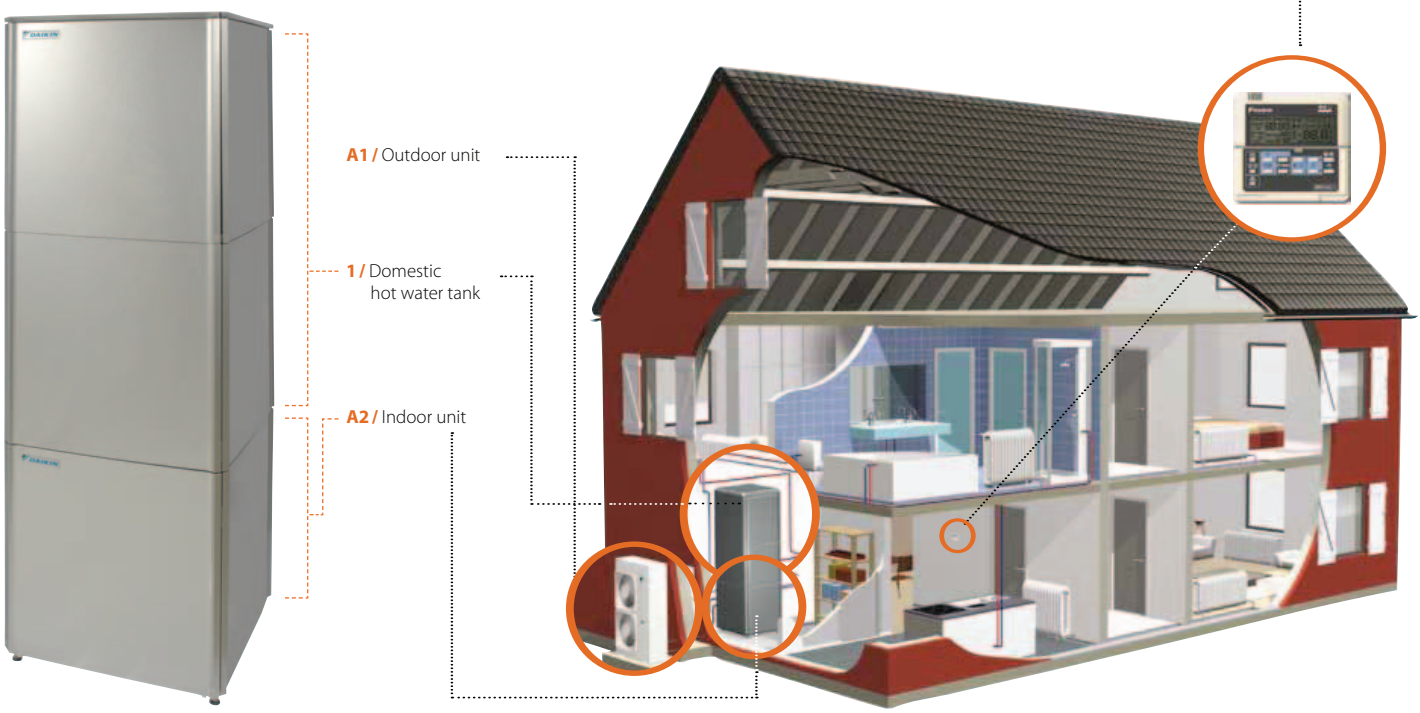
1/DOMESTIC HOT WATER
FOR LOW ENERGY CONSUMPTION
Daikin Altherma's high water temperature is ideal for heating domestic hot water without the need for an additional electric heater. Rapid heating of domestic hot water also means less energy use needed. For a family of approximately 4 people, the standard tank (EKHTS200A) is the best solution. Should you require more hot water, a larger tank is also available.

1/USER INTERFACE
With Daikin Altherma's user interface, the ideal temperature can be easily, quickly and conveniently regulated. It allows for more precise measurement and can regulate the optimal comfort level while being efficient.

3/HEATING AND DOMESTIC HOT WATER
WITH SOLAR ENERGY
The Daikin Altherma High Temperature heating system can optionally use solar energy for hot water production. If the solar energy is not required immediately, the purpose-built hot water tank (EKHWP) can store large quantities of heated water for when needed.

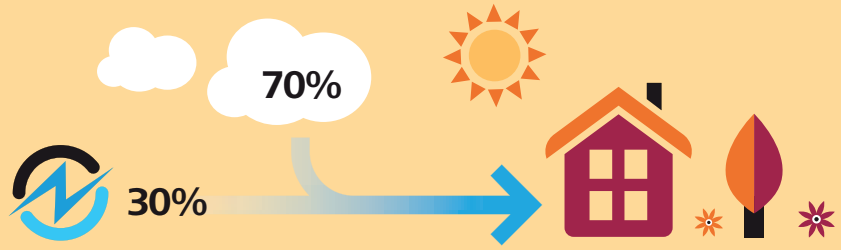
Did you know that...

Daikin solar collectors are awarded with the Solar Keymark certification. The Keymark for solar thermal products is recognized all across Europe and helps users to select quality solar collectors. In most European countries this certification is even mandatory to be eligible for subsidies.



Today, people are, more than ever, conscious of the cost of heating. There is not only the increasing cost of fuel oil and natural gas, but also the limited supply of fossil fuels and the problem of CO2 emissions. Energy efficient heating solutions are gaining in popularity. The graphic below illustrates the positive influence of the Daikin Altherma heat pump on energy consumption and in comparison with heating systems which operate on gas or fuel oil.

70% of heat is generated free from renewable energy



A heat pump simply moves heat, extracting the latent heat from the outside air and transferring it into the water of the central heating and hot water system. Basically, it works like a refrigerator, but in reverse!

COP (Coefficient of Performance) **or gain factor**

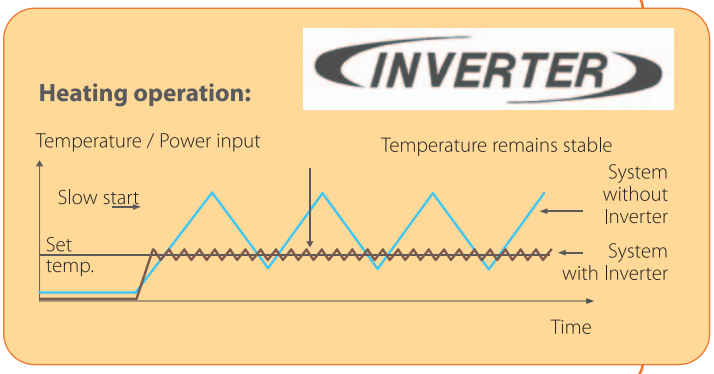
The COP indicates the amount of usable heat the heat pump delivers for every kWh electricity the heat pump uses. This number is dependent on the interior and exterior temperature and is therefore only a snapshot indicator. SPF (Seasonal Performance Factor) or performance factor of the heat pump system The SPF takes into consideration both the energy consumption of the heat pump system as well as the consumption by peripheral equipment, such as pumps, over the entire heating season.

Inverter control means

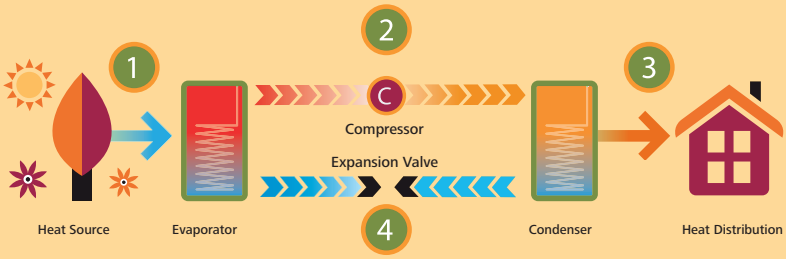
EVEN MORE SAVINGS!

The inverter constantly adapts your system to actual heating demand. No need to fiddle with settings: the programmed temperature is optimally maintained regardless of outdoor and indoor factors such as the amount of sunlight, the number of people in the room, etc.

This results in unmatched comfort, prolonged system life since it's only in operation when needed, and 30% additional savings in energy costs compared to non-inverter heat pumps.



How does a heat pump work?



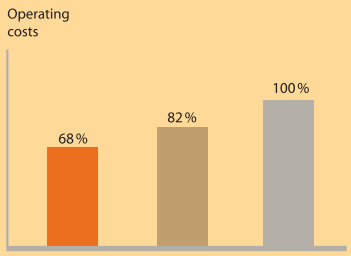
1 A heat exchanger contains refrigerant, which is colder than the outside air. As the air passes the exchanger, the refrigerant absorbs the latent heat from the outside air and evaporates.

2 The vapour passes into the compressor and is compressed, increasing its pressure and temperature, effectively concentrating the heat.

3 Hot vapour is condensed in the second heat exchanger where heat is rejected and the vapour condenses back into a liquid. The rejected heat passes into the central heating and hot water system, ready for use in the home.

4 The liquid refrigerant passes back through an expansion valve, ready to start the cycle again.

Simulated Performance



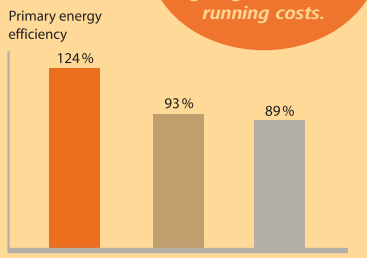
Operating Costs:
Conditions: Required Annual Heating Energy; 20,000kw hours
Source: Energy prices based on Eurostat statistics first semester 2007

Daikin Altherma air / water heat pump

Gas boiler

Fuel oil boiler

Contact local Installer to have tailored report for your dwelling, giving estimated running costs.



LOW PRIMARY ENERGY CONSUMPTION
Conditions; for combustion systems the PEE indicated the overall efficiency of the system, while for heat pumps it is equal to the seasonal performance factor multiplied by the electricity production efficiency which on average is 0.4 in the EU.

Daikin Altherma range is also the first to achieve the Quiet Mark from the Noise Abatement Society (NAS). Daikin is the first heat pump manufacturer to receive this recognition in the UK, which proves that Daikin Altherma products operate at very low sound levels comfortable for human hearing tolerances.

QUIET
noise abatement society

Daikin Altherma HT

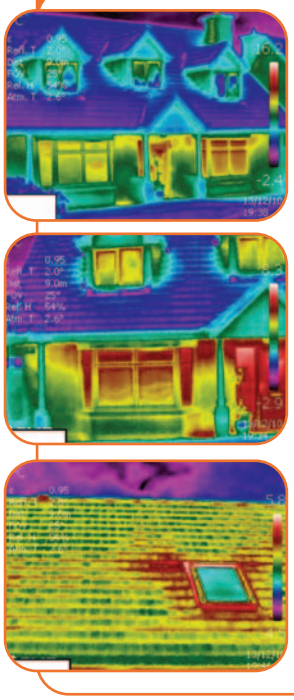
CHANGING THE WAY WE HEAT OUR HOMES

NOW IT IS TIME TO RETHINK THE WAY WE HEAT OUR HOMES AND HOT WATER.
CENTRAL HEATING SYSTEMS AS WE KNOW THEM TODAY ARE CHANGING DRAMATICALLY.

Daikin Altherma HT is the complete home heating system that is the genuine alternative to fossil fuels and will make a real Difference to both your pocket and to the environment.

Daikin Altherma uses a natural source of energy. The outdoor unit extracts heat from the outside air and raises its temperature to a level high enough to supply heating. This heat is transferred to the indoor unit via refrigerant piping. The indoor unit receives the heat from the outdoor unit and further increases the temperature. Daikins unique cascade compressor approach to heat pumps (one in the outdoor/one in the indoor unit) means optimum comfort at even the coldest outdoor temperatures.

CASE STUDY: Detached House 170m² Moate, Co. Westmeath



Until winter 2010 this dwelling was heated by LPG gas, and after the severe winter of 2009 and high heating costs a change was needed.
The 3 main targets were to cut down on energy usage, energy cost whilst while maintaining a warm living environment.
On first assessment the heat loss of the house could be minimised, the bulk of the heat was being lost through the roof, glazing and walls respectively. A local contractor was employed to re-insulate the attic space and around the dormer spaces where there was major heat leakage.
The unit cost of energy was also renegotiated with the energy provider. The cost of re-glazing was ruled out due to high cost and a more cost effective measure of upgrading the heating system was carried out.
The heating system was upgraded to proper zone control along with the installation of a Daikin Altherma High Temperature system. The HT was a direct replacement for the existing boiler with minimal re-plumbing needed.

The unit was commissioned on the evening of the 3rd of December, recording a flow temperature of 78°C at an outdoor temperature of -9°C.

The main benefits of
DAIKIN ALTHERMA HT
at this property are:

- No need to change radiators.
- Daikin Altherma works in conjunction with standard radiators designed at a flow temperature of 70°C to 80°C.
- Simulation software estimates an approx. 25% carbon emission reduction and 60% running cost saving on existing bills.
- One bill.
- Standard domestic electrical supply, with no chimney, flues or fuel storage tanks.
- The system is very safe to use as there is no flammable fuel usage or toxic flue gases.
- Minor adaptation to the existing heating and hot water pipe work.
- Daikin systems use tried and tested technology with over 50 years of experience.
- Daikin products are fully SEAI grant aided under Greener Homes Scheme.

TESTIMONIAL: Clare Carroll, Home Owner

"We recently had a baby and we wanted to have the peace of mind that we could have a warm house without the financial constraints. Our gas bills have always been high and we knew that keeping our house continuously warm in the freezing weather conditions would be unaffordable. We made a decision to invest in a new heating system which is environmentally friendly and efficient. We are delighted with the change. The heating system was installed with minimal hassle as it works with our radiators. The heating unit is neat and fits perfectly in our utility room. We no longer are worried about the gas bills coming in the door as it works on electricity. Our heating bills are now low and affordable, while maintaining a constant warm temperature in the house."