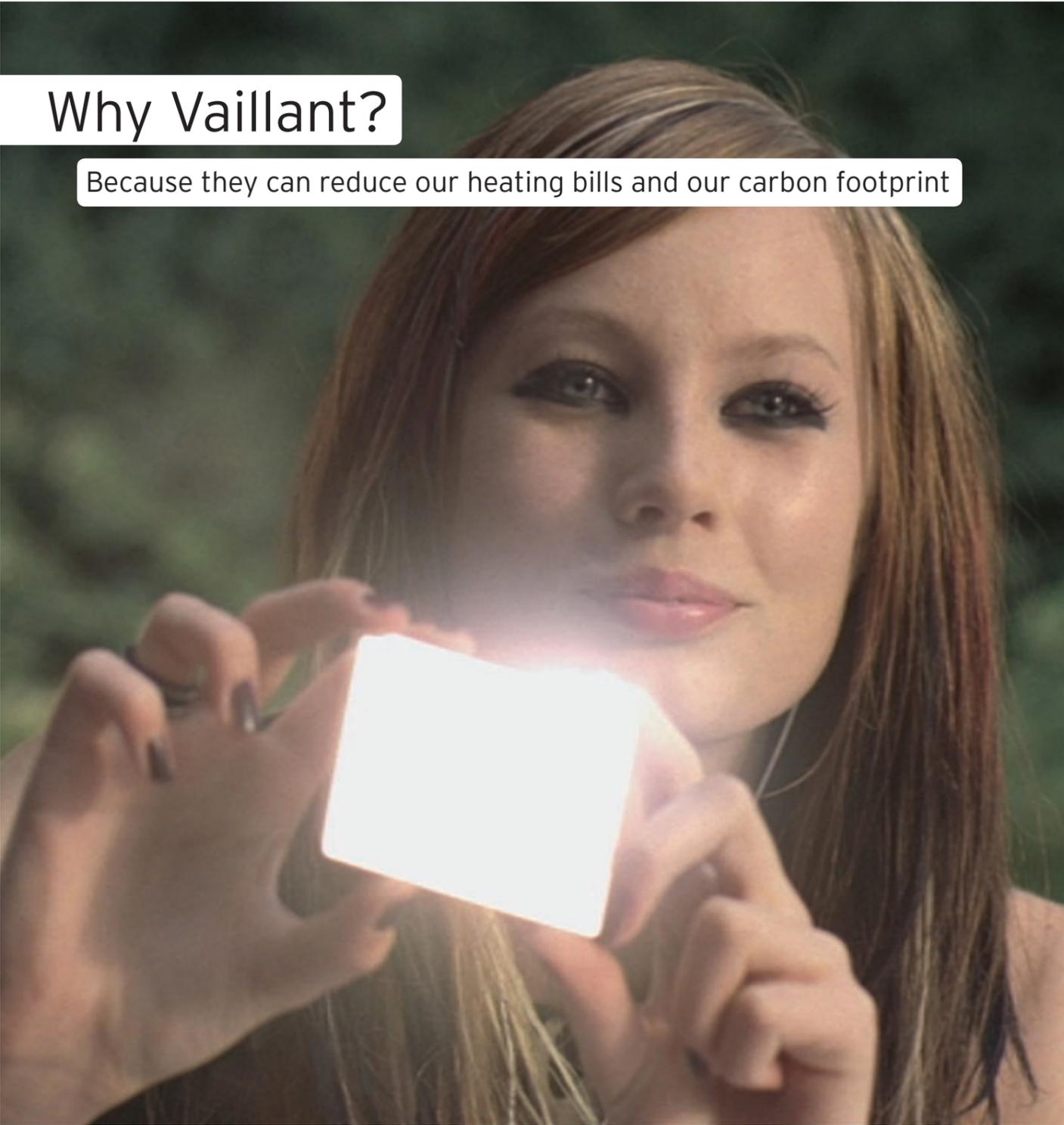


# Why Vaillant?

Because they can reduce our heating bills and our carbon footprint



■ Heating ■ Hot Water ■ Renewables

## Because we're here to help

If you have any questions, please call 01634 292300.  
We can also give you details of your nearest Vaillant installer,  
who can discuss how our systems can help you save money and the planet.

**Vaillant Ltd**  
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Because  Vaillant thinks ahead.

Because  Vaillant thinks ahead.



## Because ours is a story worth telling.

### Contents: Page

High efficiency boilers	4 - 5
Solar domestic hot water systems	6 - 7
Ground source heat pumps	8
Air to air heat pumps	9
Hot water storage cylinders	10
Intelligent controls	11

The Vaillant story began over 135 years ago with the invention of the first practical hot water system. That first breakthrough came from thinking ahead. And that's something we've never forgotten. Today, we're Europe's number one heating technology manufacturer, leading the field in high efficiency boilers and renewable technologies, from solar powered hot water systems to ground source heat pumps and intelligent controls.

Millions of Vaillant appliances are in use across the world every single day, all of which come with an enviable reputation for performance, quality and reliability.

Behind it all is our people. Assured, down-to-earth and always ready to offer expert advice. They've helped us to bring precision German engineering to a global market.

With many years' experience in the UK, we're committed to helping you create a comfortable, warm and happy home.

Through our specialist service offering, nationwide gas safe registered engineers ensure ongoing after sales service support, even if you never need it. For most people, home heating and hot water systems are out of sight and out of mind. But now, with continued rises in energy prices and concerns about carbon emissions, your choice of home heating products has never been more important.

A Vaillant heating system is an investment in the future, helping you to significantly reduce your heating bills and your carbon footprint. This guide features the different technologies available from Vaillant, explaining what they are, how they work, and helping you choose your next heating or hot water solution.

#### what's next?

To discuss the perfect solution for your home visit [www.vaillant.co.uk](http://www.vaillant.co.uk) to find your local Vaillant installer.

Because great savings needn't cost the earth.

High efficiency boilers



All Vaillant high efficiency boilers are Energy Savings Trust recommended.

#### What are they?

There are three different types of domestic heating and hot water boiler: combination boilers (known as 'combi'), system boilers and; open vented boilers. To comply with current Building Regulations new boilers should be high efficiency. Vaillant has a complete range of high efficiency boilers including, combi, system and open vent models.

#### How do they work?

High efficiency boilers have an advanced heat exchanger which enables the boiler to extract heat from water vapour that would normally be lost out of the flue.

This heat is used to pre-heat water returning to the boiler from the central heating system, improving the boiler's overall efficiency and reducing the amount of gas used.

#### How energy efficient are they?

Vaillant ecoTEC boilers (which are the top SEDBUK A rated) operate with an annual seasonal efficiency of over 90%. Typically, older types of conventional boilers only achieve efficiencies of 55% - 65%, meaning your high efficiency condensing boiler can save you over a third of your heating bills.\* This can amount to a saving of over £285\* on your annual home heating bill.

#### What is SEDBUK?

SEDBUK stands for Seasonal Efficiency of Domestic Boilers in the UK. The [sedbuk.com](http://sedbuk.com) website provides a range of information on boiler efficiency.

#### Boiler scrappage scheme

All Vaillant high efficiency boilers are eligible for the Government's Boiler Scrappage Scheme. Replacing any old SEDBUK band G or less efficient boiler to a Vaillant SEDBUK band A boiler means you can get a £400 government grant towards the cost of the boiler and the installation. By choosing Vaillant for your replacement through the Boiler Scrappage Scheme we'll give you an extra one year on top of the standard warranty on your new high efficiency condensing boiler, ensuring not only peace of mind but a saving on your heating bills and your carbon footprint.

For more information, please see our Boiler Scrappage leaflet, visit our website [www.vaillant.co.uk](http://www.vaillant.co.uk) or go to the EST website [www.est.org.uk](http://www.est.org.uk)

Choose the high efficiency boiler that's right for your home:

#### Combination boilers

A combination boiler is a high efficiency hot water and central heating boiler. Often referred to as a 'combi' it runs on demand meaning it only heats up the water that you need to use. This type of boiler requires no water storage or cylinder, meaning the space required for your heating solution is kept to a minimum.

#### System boilers

This type of boiler will provide central heating and hot water via a storage cylinder (usually installed in an airing cupboard). This means larger volumes of water can be available for several outlets at the same time. A system boiler installed with an unvented hot water cylinder does not require a cold water storage tank (usually found in the roof space). This makes this type of boiler/system also suitable for loft conversions or apartments.

#### Open vent boilers

Open vent boilers provide central heating and hot water via a storage cylinder. They are found in many homes, meaning an open vent boiler is often a quick and cost effective way to improve the performance and efficiency of the system. Open vent systems typically have two tanks, both located in the loft, plus a hot water storage cylinder. Like a 'System' solution they can deliver high volumes of hot water to multiple outlets.

#### Vaillant total system solution

Vaillant offers the total package for your heating and hot water solution, with all Vaillant products working together to ensure your system achieves optimum efficiency. All of this is backed up by our comprehensive after sales service support. To find out more about our hot water storage cylinder range and intelligent controls turn to pages 10 and 11.

To find your local Vaillant installer and discover how to save over a third on your heating bills visit [www.vaillant.co.uk](http://www.vaillant.co.uk)

\*Energy saving and consumption calculated using DEFRA data for a three bedroom semi-detached house with an old heavyweight boiler. Money saving calculated using British Gas Websaver 5 Tariff January 2010

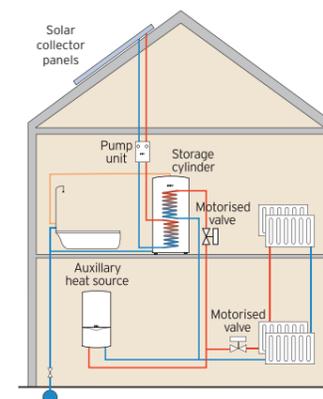
Because a brighter future can be yours.

## Solar domestic hot water systems

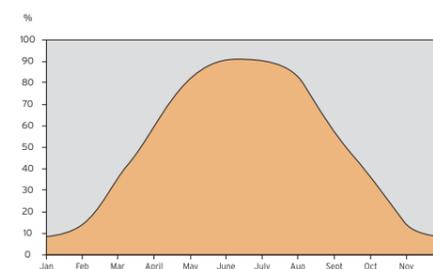
### What is a solar system?

Solar systems collect the sun's energy in panels mounted on the roof. These are connected to a storage cylinder that delivers domestic hot water to taps.

A supporting high efficiency boiler is also connected to the system to provide heating and to back up the solar hot water supply when solar energy levels are low, for example in mid winter, or at times of peak demand in the home.



A typical solar hot water and home heating installation



Typical contributions made by solar heating to domestic hot water supply in the UK throughout the year.

### How does solar work?

The panels on the roof contain a highly effective absorber of solar radiation. This material collects heat, transferring it to 'solar fluid' contained in pipes within the panels. This heated fluid then circulates through a coil in the cylinder, heating the water for household use.

A solar control unit monitors the temperature of the panels and of the cylinder. When sufficient solar energy is available the control switches on the solar pump to heat the cylinder.

If insufficient solar energy is available to heat the water to the desired level, the controller activates the boiler. By automatically switching between the two, the system minimises energy use while ensuring there is always hot water on demand.

### How energy efficient is it?

You might think that the UK would be a poor location for a solar hot water heating system. In fact from April until September solar systems can provide as much as 60%-90% of domestic hot water requirements.

Even in mid winter a solar system can contribute 10% of daily hot water demands. That's because solar panels can absorb solar radiation even when the sky is overcast.

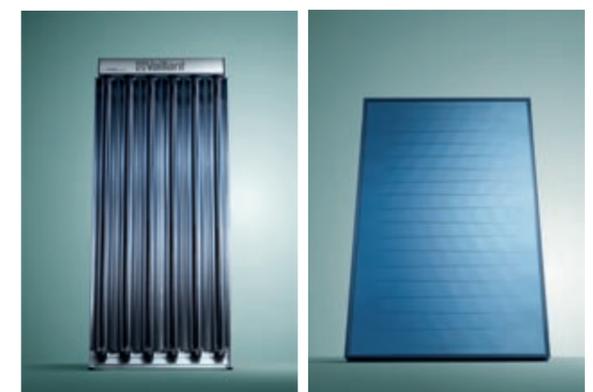
Overall, a typical solar hot water system will provide 50%-60% of domestic hot water needs throughout the year. That means your hot water bill can be cut by over 50%, a big saving at a time of escalating energy costs.

### Is solar right for your home?

A solar system will work most efficiently if your house has a pitched roof that faces south and is not shaded by trees or other buildings. If the roof faces between 30 degrees east and 40 degrees west of south the system will work with a small loss of efficiency. Even so, this loss can be compensated by installing a larger area of collector panels.

### Vaillant total system solution

Vaillant offers the whole solar system from the auroTHERM solar collector panels to the auroMATIC intelligent control and the auroSTOR hot water cylinder. By using the Vaillant total system solution all components work together seamlessly to achieve the optimum efficiency of your system all backed up by our nationwide after sales service support.



Vaillant vacuum tube and flat plate solar collector panels.

### What's next?

To discuss solar domestic hot water solutions for your home, visit [www.vaillant.co.uk](http://www.vaillant.co.uk) to find your local Vaillant accredited solar installer

# Because natural energy is right under your feet.

## Ground source heat pumps

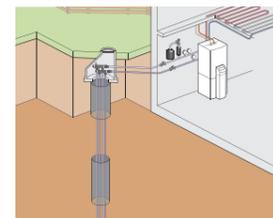


### What are ground source heat pumps?

Ground source heat pumps collect energy stored in the earth and use it to heat water in a cylinder for the provision of central heating and domestic hot water in the home. This is the most advanced technology available for home heating and hot water. Because the earth itself 'stores' energy it is an extremely reliable and constant energy source, it creates no harmful emissions and only a small amount of electricity is used to drive the heat pump itself.

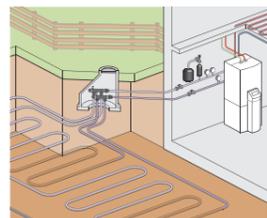
### How do they work?

A heat pump works in the same way as a refrigerator, but in reverse. The collection system consists of a single deep borehole in the garden or, where space permits, a looped array of pipes buried approximately 1.2 metres below the surface enabling the ground source heat pump to extract heat stored in the earth. This low temperature energy passes through a CFC-free refrigerant circuit which converts it into higher temperatures to heat the home. In summer, with an underfloor heating system connected to the heat pump energy flow can be reversed, cooling the room to a comfortable temperature. If you're considering having a ground source heat pump installed you may be eligible for a grant through the Low Carbon Buildings Programme.



### Vertical ground loop collector

The ground collector is positioned vertically in the soil and therefore is extremely space-saving. Vaillant will support you to find a partner for the required drilling.



### Horizontal ground loop collector

In a depth of about 1.2 metres, the ground loop collector system is laid horizontally in the earth and here it gains the heat contained in the soil.

### How energy efficient are they?

Heat pumps provide heating and hot water with extraordinary energy efficiency. The only energy consumed is for the periodic operation of the pump. For every 1kW of electricity used to operate the heat pump, up to 4.5kW of heat can be provided to the house for heating and hot water. A heat pump can also reduce the CO<sub>2</sub> emissions from a domestic property by up to 40%. The heat pump unit also contains a 4kW immersion heater that if necessary automatically boosts the hot water temperature.

### Is your home suitable for a heat pump?

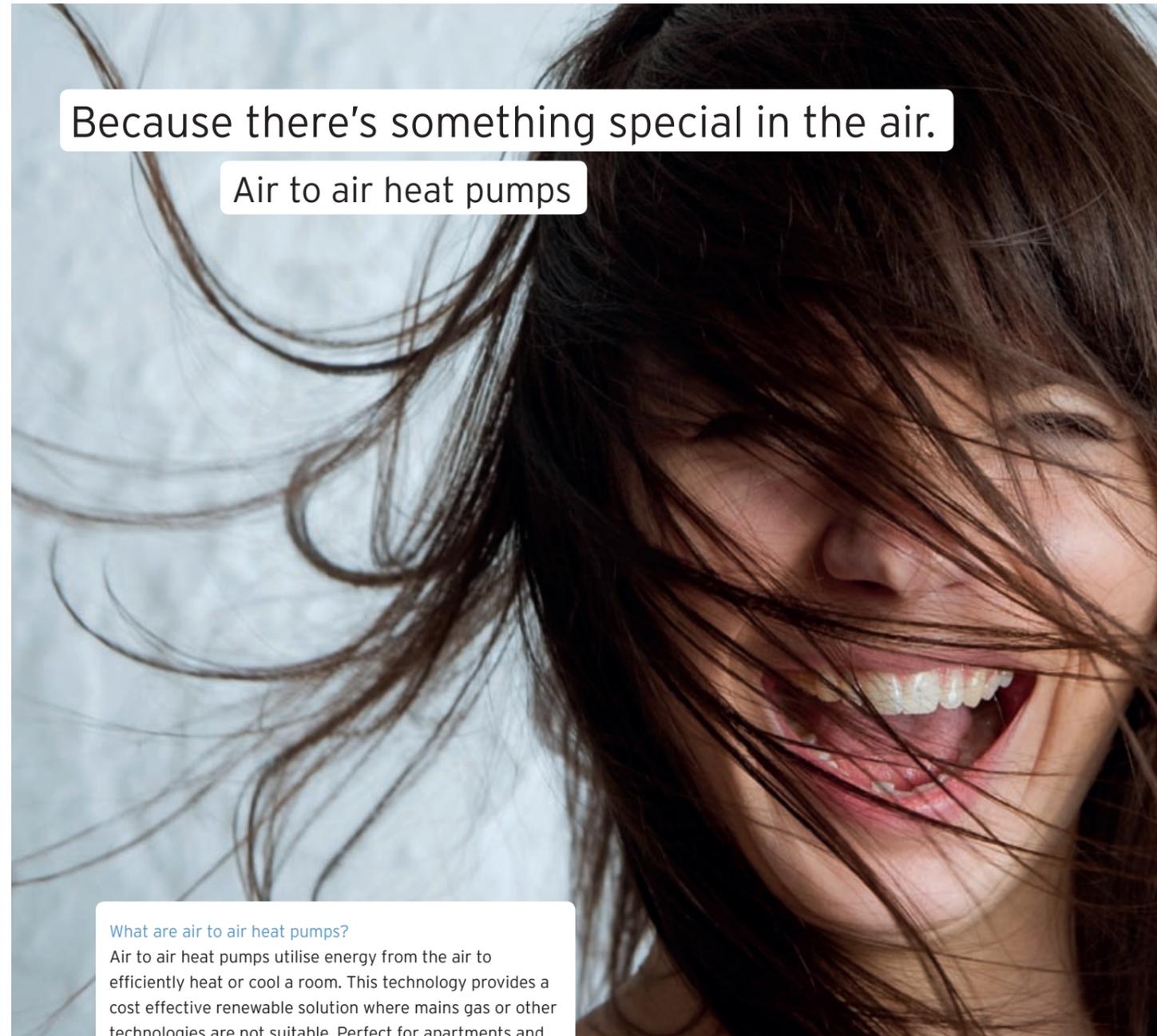
The heating characteristics of heat pumps make them perfect for homes with underfloor heating. They are suitable for a variety of homes. The vertical borehole requires minimal space in the area around the building. The only limitation for heat pumps is in achieving a satisfactory balance between the energy loss of the building and the required flow temperature of the heating system. For these reasons heat pumps are most suitable for new buildings and major refurbishments.

### What's next?

To find out more about ground source heat pumps and to find your nearest installer, visit [www.vaillant.co.uk](http://www.vaillant.co.uk)

# Because there's something special in the air.

## Air to air heat pumps



### What are air to air heat pumps?

Air to air heat pumps utilise energy from the air to efficiently heat or cool a room. This technology provides a cost effective renewable solution where mains gas or other technologies are not suitable. Perfect for apartments and smaller homes, air to air heat pumps require no storage space for fuel and can provide up to 10kW to heat rooms, with the added benefit of cooling during the warmer months. Advanced filters ensure that the air is cleaned whilst it is circulating around the system, offering comfort to allergy sufferers.

### How do they work?

Air to air heat pumps extract heat from the air outside to produce warm air distributed by fans to heat a room. Rather than burning fuel to produce heat an air to air heat pump works much like the way a refrigerator works.

### How energy efficient are they?

Vaillant air to air heat pumps achieve efficiencies of over 400%, meaning that you can gain up to 4.2kW of heat from every 1kW of electricity used.

### What's next?

To find out more about Vaillant's range of ClimaVAIR air to air heat pumps and details of your nearest installer, visit [www.vaillant.co.uk](http://www.vaillant.co.uk)





Because you want hot water on demand.

Hot water storage cylinders

**What are they?**

Vaillant's stainless steel cylinder range ensures that in situations where hot water is needed, for example with a system or open vented boiler, or where there is a solar installation, hot water can be stored with minimum heat loss.

**How do they work?**

Vaillant's stainless steel cylinders come in two ranges - a high performance unvented standard storage cylinder which is connected to a boiler, or a solar cylinder which is connected to a standard solar system. The hot water in the cylinder is stored after it has been heated by a boiler. With its minimal heat loss it ensures a quick delivery of hot water to multiple outlets. The solar cylinder has a coil containing the solar fluid from the collectors on the roof which heats up the water inside the cylinder. The solar cylinder is also connected to a conventional heat source to top up the hot water when there is insufficient solar energy.



Vaillant's hot water storage cylinder solutions.

Because comfort shouldn't be complicated.

Intelligent controls



**What are they?**

Programmable controls provide a comfortable living environment within your home and help to minimise domestic heating bills. Temperature data from thermostats and sensors is fed back to the boiler maximising efficiency. These controls also give you a wide choice of easily adjustable options to further optimise heating efficiency and fuel economy.

**How do they work?**

Programmable controls are either fitted into the fascia of the boiler or wall mounted in a convenient location within the home. The thermostats in the heating zones and outside sensors are then linked to the boiler. There are three areas of control that greatly improve the economy of your boiler:

- **Advanced timing control**  
This function offers different settings for groups of days of the week and three switching periods per day. Summer and winter settings, holiday mode, hot water advance and temporary override options all further help to optimise boiler use, maximise your home comfort and reduce energy consumption.

- **Weather compensation**  
Outside sensors measure temperature changes and adjust the boiler performance to maintain the desired inside temperature, allowing your boiler to operate with maximum efficiency.
- **Load compensation**  
Reduces the temperature of hot water going to radiators as the target room temperature is approached, cutting back energy consumption.

**How energy efficient are they?**

Correctly setting up controls will help you to reduce your energy consumption. Vaillant estimates that a further 5%-10% saving on energy bills can be achieved with the use of programmable controls.

**What's next?**

to find out more on Vaillant's unISTOR storage cylinders and intelligent controls visit [www.vaillant.co.uk](http://www.vaillant.co.uk) to find your local installer

The information in this brochure was correct at the time of going to print. Vaillant reserves the right to make any modifications to product specifications, or any other details, without prior notification. Jan 2010.