

Product Explainer

Air Source Heat Pump



Air Source Heat Pumps

A modern, low-carbon way to heat your home

What is an air source heat pump?

An **air source heat pump (ASHP)** is a highly efficient heating system that keeps your home warm and provides hot water using energy drawn from the outside air.

Instead of burning gas or oil, it uses electricity to move heat into your home, making it a cleaner, lower-carbon alternative to traditional boilers.

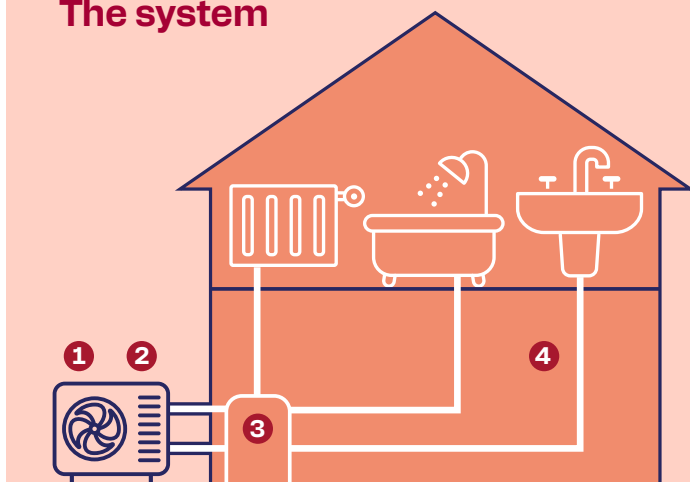
The main unit sits outside your property and looks similar to an air-conditioning system.

How do air source heat pumps work?

Air source heat pumps work by **absorbing heat from the air outside**, even in winter.



The system



- 1 works best over longer periods, providing steady, lower-temperature heat
- 2 pulls in outside air through the external unit to efficiently extract warmth
- 3 a new hot water tank will need to be installed
- 4 circulates warm water evenly through radiators and your hot water system

A heat pump works like a fridge in reverse, moving heat from one place to another and providing steady, comfortable warmth throughout the day. It runs most efficiently at a constant temperature; unlike gas boilers, switching it on and off makes it work harder and use more energy.

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Key parts of the system

Most air source heat pump installations include:

Outdoor unit

Installed outside with enough space for airflow. Positioning is carefully planned to meet noise and distance regulations.

Hot water cylinder

A heat pump always requires a hot water tank to store water for baths, showers and taps. This cylinder is typically larger than a standard immersion heater or condensing boiler hot water tank.

Radiators and pipework

Your existing heating system may need upgrades to pipework and radiators, either partial or complete replacements, depending on what is required to operate efficiently at lower temperatures.

Air source heat pumps provide efficient, low-carbon heating and consistent, future-ready home comfort.



Future-ready technology

As the UK moves away from fossil fuel heating, heat pumps are a long-term solution.

Eligible for grant funding

Many households can access support through government-backed schemes, reducing or removing upfront costs.

What you should be aware of

Heat pumps are a great option for many homes, but it's important to understand a few key points:

Your home may need good insulation

Heat pumps work best when heat stays inside. Some properties may need loft or wall insulation first.

Radiator upgrades are sometimes needed

Because heat pumps run at lower flow temperatures, upgrades may be recommended.

Installation takes longer than a boiler swap

A full install usually takes several days and involves both indoor and outdoor work.

You'll need space for a cylinder

Unlike combi boilers, most systems require a hot water tank inside the home.

Running costs depend on electricity tariffs

Running costs depend on electricity tariffs. Installing an air-source heat pump alongside solar panels and/or a battery can further reduce running costs. Homeowners should consider and understand potential running costs before installation, and this should be discussed in advance to ensure an air source heat pump is the right choice.

The main benefits of air source heat pumps

Lower carbon heating

They produce significantly fewer emissions than gas or oil systems.

Efficient all-year performance

They deliver more heat energy than the electricity they use, making them one of the most efficient heating options available.

Consistent comfort

Heat pumps maintain an even temperature, improving the consistent warmth and comfort of your home.

Works well with home upgrades

They pair brilliantly with insulation, solar panels and battery storage.

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Professional assessment ensures heat pump suitability, guiding installation, upgrades, running costs, and maintenance for efficient, quiet, long-lasting, comfortable home heating.



Is my home suitable?

The best way to find out is through a professional assessment.

A survey will look at:

- insulation levels
- your current heating system
- radiator sizing
- outdoor space for the unit
- hot water needs of your household

Afterwards, you'll receive a clear plan outlining:

- recommended system design
- expected running costs
- any upgrades required
- installation timeline

What to expect during installation

Most installations take **around 3–5 days**, depending on the property.

Typical steps include:

- preparing a secure base for the outdoor unit
- removing the old heating system safely
- fitting the heat pump outside
- installing or upgrading radiators if needed
- adding a hot water cylinder indoors
- connecting pipework, electrics and controls

Installers will protect your home with dust sheets and explain the process throughout. There may be short periods without heating or hot water during the changeover, but this is planned carefully to minimise disruption.

After installation: what you need to know

Learn how to use the new heating system in a way that works for you. It is good practice with any new heating system to pay attention to how the home feels and what the use and running costs are to find the right balance for you.

To get the best results:

- keep the system running steadily rather than switching it fully on/off
- use settings like **Holiday Mode** when away
- don't worry if radiators feel cooler, heat is delivered more gradually
- follow the installer handover and user guidance

Many residents find the warmth feels more even and comfortable once they have adjusted to the new heating system.

Are heat pumps noisy?

They do make some sound, but modern units are designed to run quietly, usually comparable to a modern refrigerator or freezer.

Installations must meet strict noise standards.

Maintenance and lifespan

Heat pumps are low-maintenance, but it is recommended:

- an annual service by an accredited installer
- keeping the outdoor unit clear of leaves or snow
- trimming plants nearby for airflow

Most systems last **around 20 years**.

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Frequently asked questions

Do heat pumps still work in winter?

Heat pumps work in freezing conditions. Far colder countries like Scandinavia and Canada have higher heat pump adoption than the UK.

Will my home feel warm enough?

Yes, when correctly designed. Heat pumps provide steady warmth rather than quick blasts.

Do I need planning permission?

Usually not, as they fall under permitted development. Extra checks may apply in conservation areas or if the property is a listed building.

Are air source heat pumps expensive to run?

Air source heat pumps may seem costly, but actual costs depend on electricity tariffs, system efficiency, and property insulation. Running costs can be reduced with solar panels or battery storage.

Will installing an air source heat pump cause disruption?

Installation can cause temporary disruption, such as work in your garden or loft, but most are completed in a few days. Your installer will discuss the process and preparations to minimise inconvenience.

How will I control this new heating system?

Your installer will explain how to operate the system and set up controls. It's important to understand how to manage heating and hot water before they leave to ensure maximum comfort and efficiency.



Check your funding options

Many households may qualify for grant-funded support through national programmes delivered locally.

If eligible, installation may be fully or partially funded with no obligation until you're happy with the plan.

Other solutions that work well alongside heat pumps

- Loft insulation
 - Cavity wall or roof insulation
 - Solar panels and battery storage
- Ventilation improvements**
(important for air quality and moisture control)



WE CAN HELP YOU GET THAT WARM FUZZY FEELING.

Ready to explore your options?

If you're considering a heat pump, help is available to understand what's right for your home, check eligibility, and guide you through the process.

Get in touch today to take the next step.
Visit homeenergyhubnorfolk.org.uk

