Heat Pump Myths Explained

#takethestep

MYTH 1

Air source heat pumps are loud

Most heating products emit some low-level noise, including traditional gas boilers. In fact, boilers have a similar noise level to modern air source heat pumps. At NIBE, we are proud that some of our products have achieved Quiet Mark certification, demonstrating their exceptional low noise performance.

Heat pump technology is constantly evolving, and many units now come with intelligent compressor controls, which enable systems to run as quietly as possible. NIBE heat pumps are also equipped with a silent mode. This allows the system to operate at a lower volume when needed; for instance, at night.

Effective installation is critical when it comes to minimising the sound a system makes. It is important that an MCS 020 (Microgeneration Certification Scheme) sound pressure calculation is completed to comply with planning regulations.

The heat pump unit must also be sited on a secure base. NIBE provides air source heat pumps with adjustable feet as standard, as well as additional antivibration mounts for floor standing units to reduce noise levels.

MYTH 2

An air source heat pump installation takes up a lot of space

An air source heat pump unit sits outside the house, so it does not take up space inside the house itself. However, you'll need to reserve an area for a hot water cylinder and smaller buffer tank inside.

The outdoor unit can be as small as 1m wide. Although the dimension tend to vary depending on the size of the house and the heating and hot water demand.

When positioning your ASHP, a clearance zone around the unit is required to enable the free movement of air. This is essential to avoid the recirculation of the cooler air which the heat pump usually dissipates from the front of the unit.

These clearance distances are manufacturer specific but, as a rule of thumb, allow for at least 1m in front of the heat pump unit, plus 50mm to 300mm to the rear and sides.

MYTH 3

It’s difficult to find good heat pump installers

The UK has a workforce of 120,000 heating engineers who install 1.7 million heating systems each year – and the fundamental skills for boilers and heat pumps are the same.

More and more engineers are retraining and joining schemes such our NIBE Pro Installer programme, where all the installers are trained by us and MCS Certified – and we expect the base of installers to continue to grow quickly to match demand for heat pumps.

To find your nearest NIBE Pro installer scan the QR code

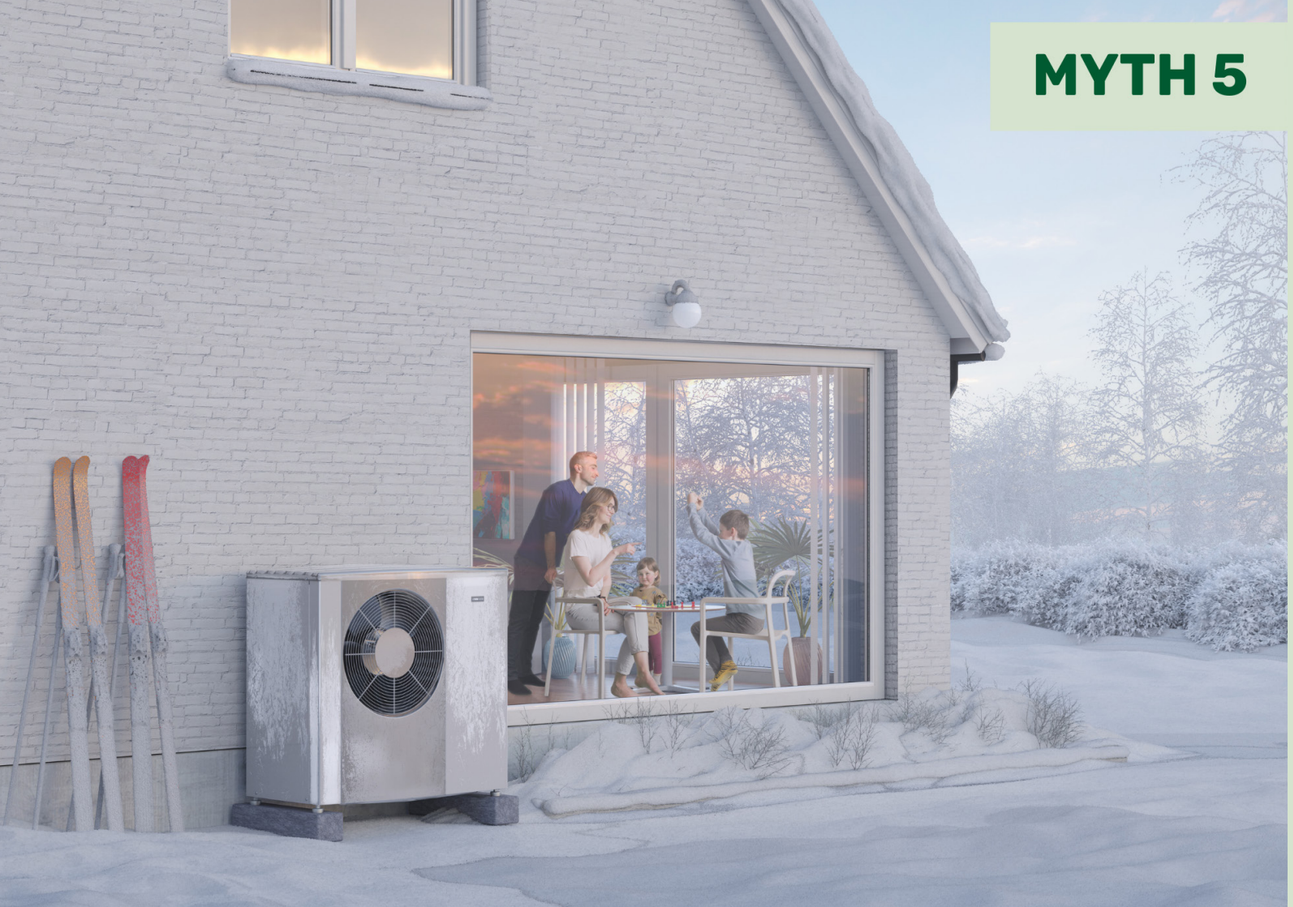
I’ll need to replace all my radiators when installing a heat pump

This is not always the case. In fact, many homes with radiators are already suitable for installing a heat pump.

Government figures state that around 55% of radiators may need upgrading when replacing a boiler with a heat pump. The only way installers can confirm if radiators need replacing or upgrading with larger panels, however, is through full room-by-room heat loss calculations.

In houses insulated to a decent standard, the work should be minimal. Many properties require only minor changes, such as the correct balancing of radiator valves to ensure an even distribution of heat.

Our NIBE Pro Installer programme offers comprehensive low flow temperature training. This ensures your accredited heating engineer can provide the most accurate design and quote for your project.



MYTH 5

Air source heat pumps won’t work if it is cold outside

Whilst this seems a fair assumption, given air source heat pumps draw heat from the atmosphere, it is not true.

Heat pumps can work efficiently in temperatures of down to -25°C. This is because 0°C is different to absolute 0 (zero kelvin, or -273°C) where there is no heat at all. At any temperature above absolute zero, there is technically some heat to be utilised.

NIBE heat pumps are built for Scandinavian climates, which are colder than we experience in the UK. So, you can be confident that your air source heat pump will continue to keep your home comfortable and warm throughout the winter months.

MYTH 6

I will need to completely replace heating system pipework

There is a common misconception that, when installing a heat pump, existing microbore pipework will need to be ripped out and replaced to enable its operation.

This is based on the notion that the pipework is too narrow to deliver the heat required to radiators at the flow rate of the heat pump system.

This is not always the case, and a full room-by-room heat loss calculation will determine the suitability of the existing pipework and confirm the steps that need to be undertaken.

Our NIBE Pro Installer Scheme includes heating systems design training to ensure your heating engineer recommends the most efficient heat pump system, tailored to the needs of your home.

MYTH 7

Air source heat pumps don’t provide efficient hot water

Heat pumps partner with hot water cylinders to cover both your heating and hot water needs. They can also be used as part of highly efficient thermal storage setups.

Saving the hot water that your heat pump generates is much more energy efficient than letting it go cold again. You also wont need to wait for your system to heat the water up on-demand as your hot water will already be pre-heated for when you need it.

MYTH 8

SCOP and COP are the same

These acronyms refer to Coefficient of Performance (COP) and Seasonal Coefficient of Performance (SCOP).

The COP figure applies only to a particular outdoor and flow temperature at a particular point in time. For example, in the summer your air source heat pump will have a really high COP when producing hot water. But in winter the COP will be lower, as the outside air is cooler and the heat pump will use more energy to heat the hot water cylinder.

SCOP is an average measurement that demonstrates how effective the heat pump is on an annual basis. So, the SCOP is the best indicator of how your heat pump is performing all year round.

NIBE's latest S2125 air source heat pump performs very well in both summer and winter months, producing a SCOP of 4.8 with a flow temperature of 35°C, and 3.59 with a flow temperature of 55°C.

In a nutshell, for every £1 of electricity used to run the heat pump you will gain up to approximately £2.59 - £3.80 worth of heat. By comparison, modern gas boilers run at around 87%-91% efficiency, so up to approximately 13p of each £1 you spend heating your home is lost in the boiler emissions.

MYTH 9

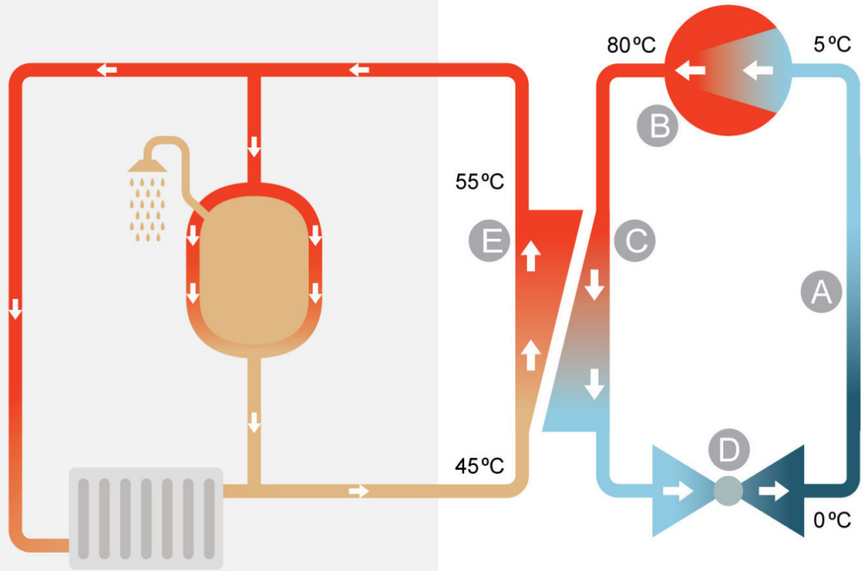
It's scary taking the step away from fossil fuels

Switching from a traditional gas or oil boiler to a heat pump can seem like a big leap, especially if you're used to relying on fossil fuels for heating. At NIBE, we understand that change can be intimidating, and the thought of moving away from what you know might feel overwhelming. But taking this step doesn't have to be scary.

Heat pumps offer a reliable, cleaner, and more efficient alternative to fossil fuels, providing warmth and hot water for your home while significantly reducing your carbon footprint. With decades of experience in cold climates, NIBE heat pumps are designed to perform even in the toughest conditions, ensuring you'll stay comfortable no matter the weather.

Plus, the NIBE Pro Installer network is here to guide you every step of the way. Let's take the step towards modern heating together, and enjoy the benefits of a sustainable, hassle-free solution.

ASHP

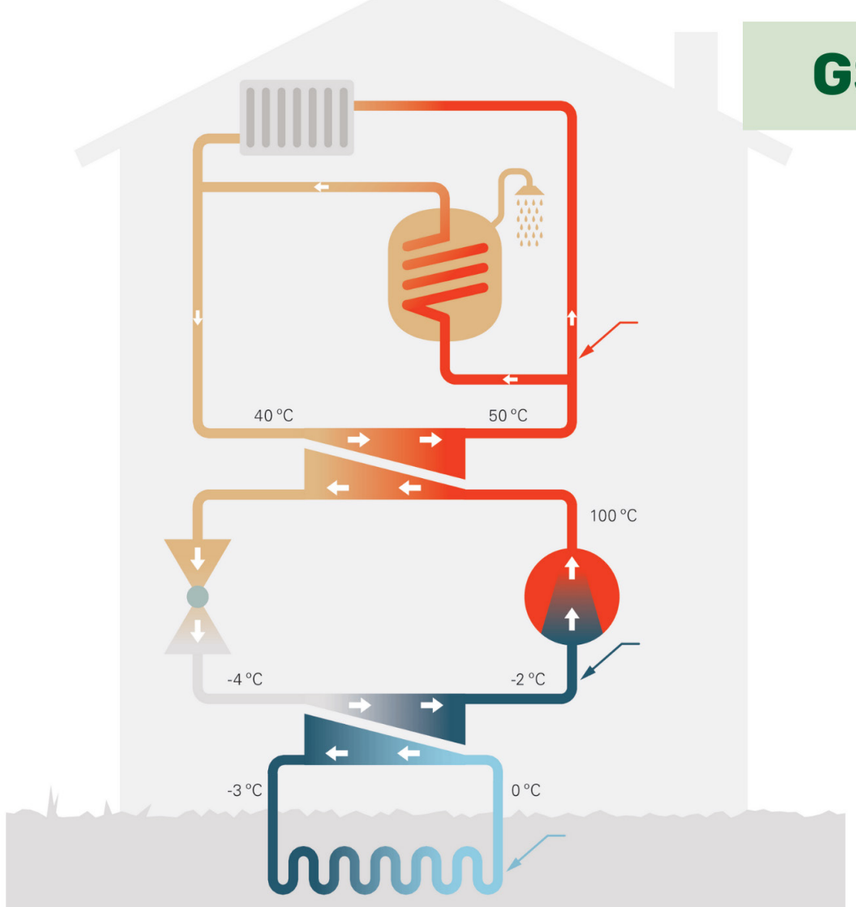


How an air source heat pump works

Air source heat pumps draw in heat energy from the surrounding air, hence the name air source heat pump. The air source heat pump comes in the form of a small-medium size unit that sits outside the building. Air source heat pumps are the most common type of heat pump.

Like any heat pump, it works using the refrigeration cycle, illustrated on the diagram through labels A-E, to provide heating and hot water.

GSHP

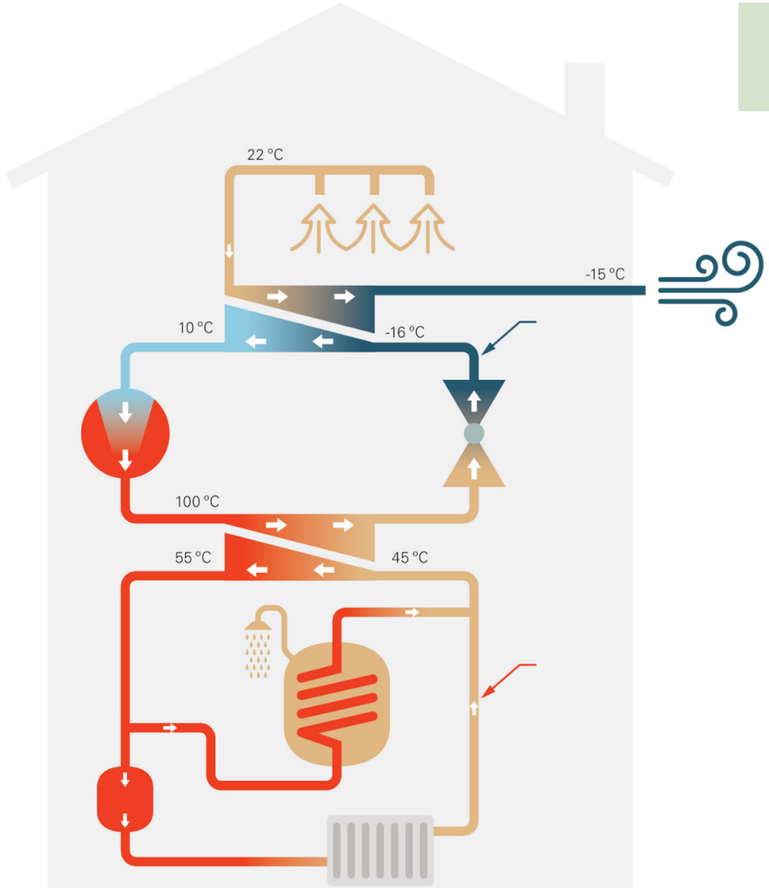


How a ground source heat pump works

Ground source heat pumps harness their energy from the ground, hence the name ground source heat pumps.

Once the heat energy has been collected, it follows the same principle as an air source heat pump by going through the refrigeration cycle to provide heating and hot water to the building. There are a number of collector type for ground source heat pumps.

EAHP



How an exhaust air heat pump works

Exhaust Air Heat Pumps combine mechanical extract ventilation (MEV) or mechanical ventilation with heat recovery (MVHR) with the refrigeration cycle principles to create a system that provides heating, hot water and ventilation. The process works by bringing fresh air into the property through air vents fitted in the walls, then naturally warming up as it passes through the house.

The warm room air is then collected by the air vents in particular rooms and drawn through the ducting to the heat pump. It then passed through an evaporator inside the unit, which takes out the energy from the air.

The heated refrigerant gas is then passed down to a condenser coil sited in the cylinder's outer jacket, which then heats the primary water in the outer cylinder jacket and in turn heats the hot water inner jacket.

Funding

What funding is available in the UK?

The Boiler Upgrade Scheme (BUS) in **England and Wales** offers financial support for homeowners to switch from traditional boilers to low-carbon heating systems. Installers can apply for £7,500 on behalf of property owners to cover the cost and installation of either air source or ground source heat pumps. The scheme is limited to existing properties, with new builds (except self-builds) being excluded. The scheme aims to reduce carbon emissions by promoting renewable heating technologies.

In **Scotland**, the Home Energy Scotland (HES) Grant and Loan Scheme provides grants of up to £7,500 for heat pumps and energy efficiency improvements, with an additional £1,500 available for rural areas, bringing the total to £9,000. Similar to the BUS, this scheme is for existing properties and self-builds, with a focus on encouraging the adoption of renewable heating systems and energy-efficient upgrades to reduce carbon emissions.

Read more about our sustainable solutions at nibe.co.uk

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