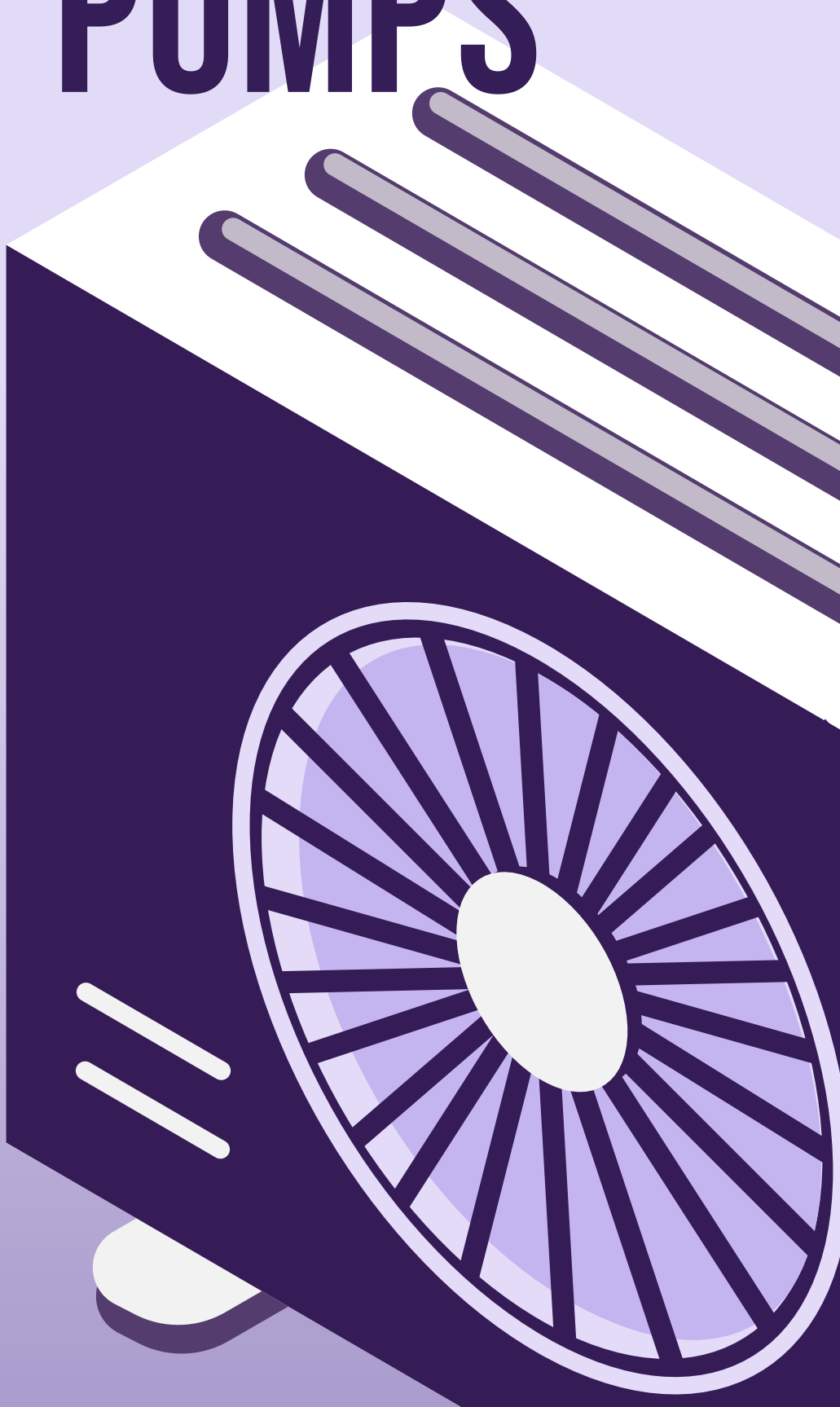
A COMPLETE GUIDE TO

AIR SOURCE HEAT PUMPS



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INTRODUCTION

If you're buying a new home in the current housing market, you might have heard of air source heating. It's one of the latest innovations in sustainable home building and a key part of many Platform developments going forward.

We're always looking for ways to be more sustainable - whether that's in our building practices, the materials we use, the systems we adopt and even the way we work ourselves.

This is why air source heating - and by extension, air source heat pumps - are such a fantastic innovation. They ensure our properties are more energy efficient, cheaper to run and ultimately, easier to maintain.

That said, they're still a relatively new innovation and not everyone may understand how they work. This is why we've created this guide: to provide you with an overview of how they work, why they're useful and the advantages they can deliver for you.

Discover:

HOW DOES AN AIR SOURCE HEAT PUMP WORK?

Fundamentally, air source heat pumps (ASHPs) are a renewable energy technology that extracts heat from the outside air and uses that air to provide either heating or hot water for buildings.

Imagine a refrigerator but in reverse - it's taking any potential heat from the air and amplifying it, ready to heat your home in a renewable way.

By utilising the method above, ASHP's provide heating (potentially through radiators or underfloor heating) and hot water, making them extremely versatile and, importantly, very energy efficient.

It's important to note that the steps described above are the fundamental process of air source heating. However, models can vary across developments and may act differently, which will be detailed in your unique user guide.

EVAPORATION

The heat pump's evaporator absorbs heat from air coming in from the outside using a refrigerant.

COMPRESSION

The refrigerant is compressed, which increases its temperature.

HEAT EXCHANGE

The hot refrigerant is passed through the heat exchanger, where the heat is then transferred to a water circuit or air system, which then provides space heating or hot water.

EXPANSION

The refrigerant then cools down, returns to the evaporator and the whole process starts again, creating a sustainable loop.

IMPORTANT THINGS TO KNOW ABOUT YOUR AIR SOURCE HEAT PUMPS

Below are some common points that you should know about the air source heat pumps in your home. As always, remember that models vary across developments, and it's important to check your unique user guide.

- As we mentioned, the system works like a fridge in reverse - it takes heat from the air, compresses it and pushes it around the system. An important thing to note is that air source heat pumps still work when it's cold outside!

- The system can defrost itself. If it becomes frozen at all, do not touch it or tamper with it - the system will pull warm water back out of the home to assist. Likewise, in cold weather, it's normal for the outside unit to produce steam as it works.

- When you move into a home with air source heating, you'll typically find two control panels - a thermostat and a separate panel for the system. While the thermostat can be adjusted as normal, the air source heating panel should not be adjusted, as it'll be set up for you.

- Radiators utilised in an air source heating system don't tend to get as hot as traditional radiators - it's a slower heat overall and is usually a little slower to heat an entire home. This means it's a good idea to maintain a fairly consistent temperature on the thermostat - this is more efficient and less costly than making larger changes up and down.

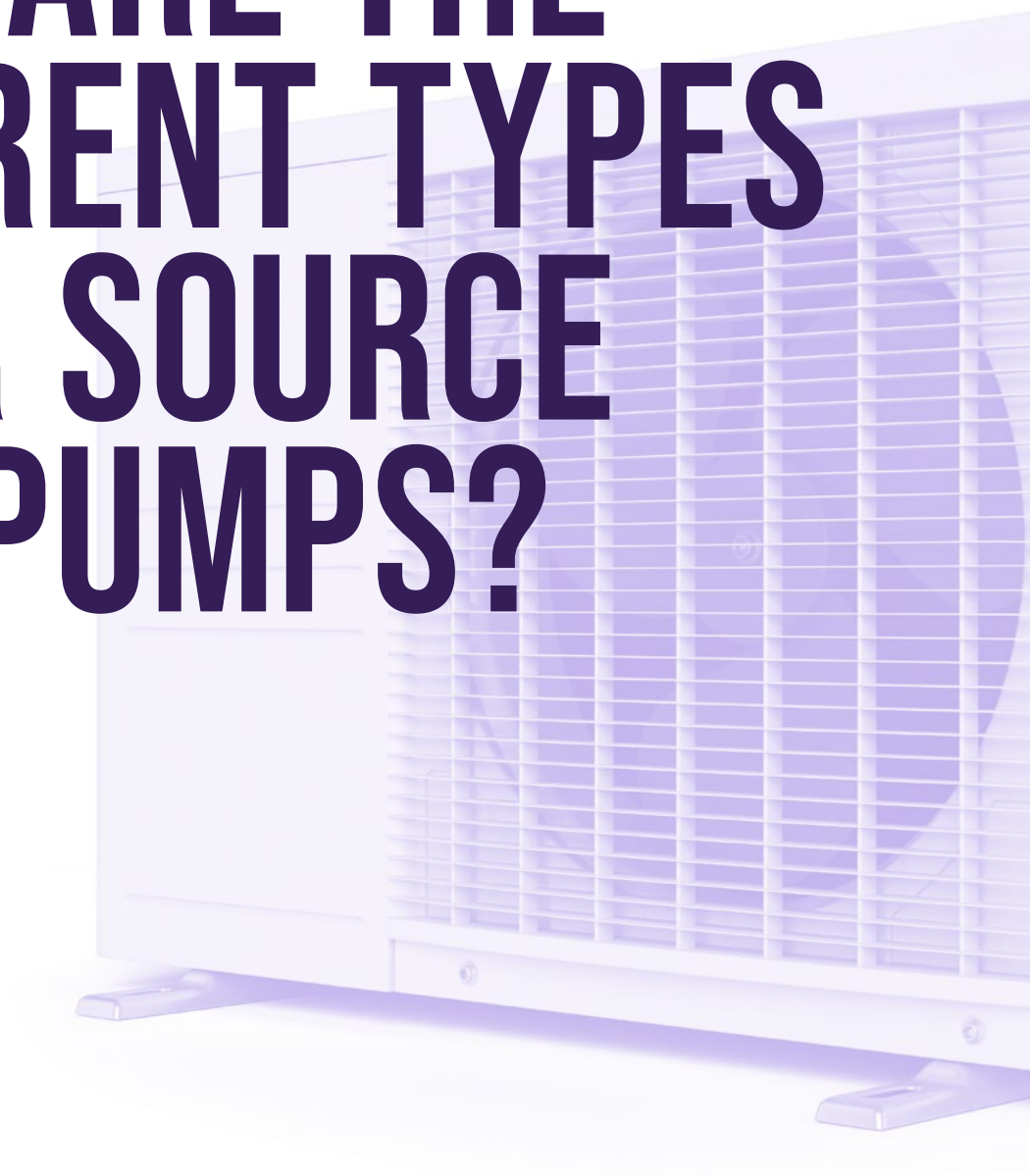
- Generally, annual servicing is a must to preserve the warranty, which usually costs around £250.

- It's recommended not to cover radiators that utilise air source heating, as this affects how efficient they are overall and with the slower heating, can cost even more money over time.

- Your hot water tank is typically set up to reheat when it's empty or when required, but manual timers can be set.

- If the system loses pressure, this can be refilled in the same way as a boiler. If it's happening a lot, the user needs to be mindful that the system has anti-freeze in it, and too much water can dilute it. This is why servicing is so important. Users should also be aware that there is an isolation valve behind/around the tank.

WHAT ARE THE DIFFERENT TYPES OF AIR SOURCE HEAT PUMPS?



There are typically two types of ASHP's you'll find in a property:

AIR-TO-WATER HEAT PUMP

These systems focus on transferring heat to water, which is then used to heat a whole property through a 'wet' central heating system, such as radiators or underfloor heating, while also supplying hot water.

AIR-TO-AIR HEAT PUMPS

These systems focus on heating the air inside a building directly, generally through air ducts or wall-mounted units. They're ideal for properties where a 'wet' heating system isn't already installed.

WHAT ARE THE ADVANTAGES OF AIR SOURCE HEAT PUMPS?

Below you'll find a roundup of the advantages associated with air source heat pumps:

1. ENERGY EFFICIENCY

The main reason people choose ASHPs is because of their energy efficiency. They're able to produce multiple units of heat for every single unit of electricity used. In real terms, an air source heat pump can provide 3 to 4 times more heat than the energy it consumes.

2. LOW CARBON EMISSIONS

Since ASHP's use the air, they generate much lower carbon emissions compared to traditional heating systems that use fossil fuels such as gas or oil boilers. If they're also powered by renewable electricity, they're able to achieve near-zero carbon emissions.

3. LOWER RUNNING COSTS

ASHP's generally cost less to run than traditional heating systems, particularly when they're integrated into a properly insulated building.

4. RENEWABLE ENERGY SOURCE

Thankfully, air is in abundance and represents a renewable resource, meaning ASHP's are classified as a renewable technology. As we all look to transition into sustainable energy systems and building practices, this makes them near-essential.

5. LOWER MAINTENANCE

ASHP's also require less maintenance than traditional heating systems. As long as they're checked regularly and essential maintenance is performed (tasks such as cleaning filters), that's typically all that is required.

6. INCENTIVE PROGRAMS

Various government financial incentives are in place to encourage people to adopt ASHP's. A prime example is the Renewable Heat Incentive (RHI) in the UK, which helps reduce installation costs overall.

WHAT ARE THE DISADVANTAGES OF AIR SOURCE HEAT PUMPS?

Below you'll find a roundup of the disadvantages associated with air source heat pumps:

1. INITIAL COSTS

While it can save money over time, the initial cost of installing an Air Source Heat Pump can sometimes be higher than traditional heating systems, depending on the size and installation. Fortunately, government incentives and the savings over time usually offset this.

2. SPACE REQUIREMENTS

Air Source Heat Pumps need an outdoor unit that must be carefully placed to avoid being obstructed by trees, buildings or other potential blockers.

3. RETROFIT CHALLENGES

If you're installing ASHP's to an existing building, the entire heating system may require upgrades or changes, particularly if you need underfloor heating or larger radiators installed. This is why more housebuilders are installing either the right system or the pumps themselves during the build.

All in all, Air Source Heat Pumps are going to be key as we move to a sustainable future, helping homebuyers reduce their energy bills whilst assisting developers with meeting sustainability targets.

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