

A LiveWest Guide to Air Source Heat Pumps (ASHPs)

What are ASHP systems?

Air Source Heat Pump systems are an extremely popular low carbon heating system and seen as an ideal low carbon alternative to gas boilers. It is expected that ASHPs will be the most popular form of heating in new properties from 2025.

These systems capture heat from the outside air and use it to heat the home.

ASHP systems are known as low temperature heating systems because the heat delivered to the home is a lower temperature than you would get with a gas boiler. However, the system is very efficient when it is allowed to heat the home slowly.

How do they work?

The Air Source Heat Pump is located externally. It draws air across fins to heat a liquid refrigerant. Using electricity, a pump within the unit compresses the liquid to increase its temperature.

The heat is extracted into the central heating fluid and then sent to provide useful heat for your home. It is sent to your radiators to provide heating; or sent to your hot water cylinder to heat the water within. This hot water can then be used for showers, baths, and taps.

ASHP systems are so effective they can extract heat from the air even when the temperature of the outside air is as low as -20°C .



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What to expect from the Heating

Running the heating system

Air Source Heat Pumps are low temperature heating systems, this means that the heat is delivered to the home at lower temperatures than you would get with a gas boiler, and therefore it should be allowed to heat the home slowly.

It is recommended that customers do not switch their heating off and on, but instead use their programmer to set the desired temperature they would like their rooms to be at for the specific times desired, then leave the system on to deliver the heat demand.

By allowing the system to heat the home slowly it will deliver heat in the most efficient and cost-effective manner. When the unit is switched on and off this will increase running costs.

If customers find that a room is getting too hot, or not heating up enough, they should use the temperature dial on the individual rooms radiators to control the level of heat being emitted into that room.

Radiators

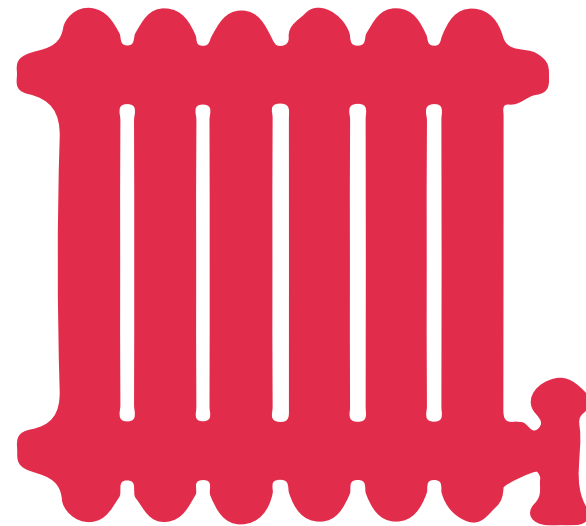
The radiators will be larger than that traditionally used with gas heating systems. This is because the water running through the radiators is a lower temperature than you would get with a gas boiler, and requires a larger radiator, with greater surface area to emit the right amount of heat into the room.

Customers may notice that the radiators do not feel as hot to touch. This is completely normal because ASHPs are a low temperature heating system.

Hot Water

The hot water cylinder will be set at around 50oC to maximise the efficiency of the system. This may be slightly cooler than customers are used to with a gas boiler system, however this is sufficient to meet customers hot water needs.

Once a week the systems will heat the water in the hot water cylinder to 70oC as part of a disinfection process. Customers must make sure that the isolator switch in the water cylinder cupboard remains on to allow the disinfection process to take place.



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Outdoors ASHP unit

Cool air will blow through the front of the machine. This is normal as the unit takes in air through the rear grills, extracts the heat from this air and blows the cooler air through the front fan.

Customers must make sure not to block the flow of air through this external unit or it will impact the system's efficiency and ability to provide heat to the property.

The outdoor unit may freeze during periods of cold weather, this is not a problem, the system will initiate a defrost cycle when this happens.

Customers may notice that the unit will give off steam and condensation, this is not smoke and does not indicate a fault with the system.

