

Getting the most out of your heat pump

Using a heat pump for the first time will mean becoming familiar with quite complex controls - but unless they are used correctly, your heat pump cannot perform at its best.

Our field trial of heat pumps found that, although overall household satisfaction with the warmth and comfort provided by a heat pump was very high, many householders have difficulty understanding the instructions for operating and using their heat pump, which impacts on performance. Although heat pump controls should get simpler, this guide is designed to help you get the most out of the heat pump you have now, whether it has just been installed or was installed some time ago.

Before you start

- ✔ Check that the document pack you receive from the installer includes a user manual for your heat pump.
- ✔ Ask the installer to explain to you how the heat pump system works and how to use the controls.
- ✔ Check whether your installer would prefer that you asked them to check the system and to reset the controller (for example, if you do not feel that you are getting enough heat) rather than have you change the programme settings yourself. Especially if the controller is designed to automatically adjust to seasonal temperature changes, some installers may prefer to do this themselves as increasing flow temperatures can have a significant impact on running costs.

Understanding the system

The standard system controls for a heat pump are an adjustable controller and a room thermostat. They may be separate units or they can be combined.

Controller

The controller may either be an integral part of the heat pump (common in the case of ground source heat pumps) or a separate unit (common in the case of air source heat pumps) fixed to the wall within a few metres of the heat pump. If your heat pump provides hot water as well as space heating it is likely to have a two-channel controller for which will allow different temperatures and times to be programmed for each.

The controller is used to:

- ✔ set the appropriate flow and return temperatures of the fluid passing through the heat pump to provide space heating
- ✔ set the temperature of hot water in a system that provides hot water as well a space heating; in a system where the hot water is usually runs at less than 60°C it will be programmed to raise the temperature of the water to 60°C or more at periodic intervals to avoid problems with legionella bacteria
- ✔ set when the heat pump comes off and on

- ✔ display error signals which will assist repair in the event of a fault arising.

Your installer should programme your heat pump using the controller as part of the commissioning process. They will do this in accordance with their calculation of the heating requirements of your home taking into account a number of factors including the times of the day you require heat and hot water. If they do this correctly you are unlikely to need to touch the controller, particularly if it has been designed to automatically adjust to outside temperature changes. Because heat pumps usually work at lower temperatures than other types of heating system it is normal for certain makes of heat pump to be set so that they are on continually or for longer periods than you might otherwise expect (to allow for a slower warm-up time).

Thermostat

The room thermostat is used to:

- ✔ monitor temperatures to ensure that they do not go too low
- ✔ communicate with the heat pump to come on if the temperature in the room is below the desired level.

TRVs

In order to get the most from your heat pump you can also look at installing and making use of additional heating controls such as thermostatic radiator valves (TRVs) if you have radiators installed as part of your heat pump system. However, seek advice from your installer on this.

Your energy consumption

Monitoring your energy consumption will enable you to calculate whether your heat pump is achieving the SPF estimated by your installer and if it is not, whether any adjustments to your system are required. In order to obtain a complete picture you should monitor both your electricity bills and any other fuel still used for heating and hot water such as gas or oil.

There are a number of online tools that will help you keep a record of your energy consumption. Most require that you input meter readings on a monthly basis. They include:

- ✔ [the online calculator at the Direct Gov website](#)
- ✔ [Home Energy and Carbon Monitoring Calculator at imeasure](#) - this automatically incorporates weekly heating degree-days to help your household accurately monitor energy use seasonally
- ✔ [the Carbon Account](#) - which lets you share data with friends and colleagues if you wish.

Your electricity tariff

Unless you previously used electricity to provide your space heating, your electricity bills will increase once you have a heat pump installed, because the heat pump uses electricity to run the pump and compressor. Your reduced bills for heating should make up for this, but it's still worth ensuring you are getting the right tariff at a competitive rate.

If you were previously using night storage heaters and were on an Economy 7 or 10, this may no longer be appropriate. Economy 10 could be ideal if you have a well-insulated home with underfloor heating (not radiators) mounted on a screed that can act as a thermal store. We recommend you discuss with your installer or site manager the most appropriate tariff to use with your heat pump and how to set your controls to make the most of it.

Cost comparison websites let you shop around for the cheapest electricity tariff in your area: these include

- ✔ [u-switch](#)
- ✔ [money facts](#)
- ✔ [confused.com](#)
- ✔ [Money Saving Expert](#)

Maintenance and service requirements

As part of the handover process that will take place after your heat pump has been commissioned, the installer should advise you about the maintenance requirements and maintenance services available for your heat pump. In order to get the most out of your heat pump you will need to comply with these requirements, although you can expect very little maintenance to be required if a well-designed heat pump is installed properly.

An annual service of both types of heat pumps may be a requirement of a warranty remaining in force.

Air source heat pumps

If you have an air source heat pump you are likely to be advised that a yearly visual inspection should be carried out to check that the air inlet grill and evaporator are free of leaves or other debris. Any plants that have started to grow near the heat pump unit will also need to be removed.

You may also be advised by your installer to check the central heating pressure gauge in your house from time to time. If so, you should be shown how to do this.

[Visit Yougen for advice on getting the best out of your air source heat pump in sub-zero temperatures.](#)

Ground source heat pumps

[Ground Source Heat Pump Association](#) website advises that there is no need for safety checks for ground source heat pumps and that routine maintenance requirements are very low.

[Visit Yougen for information on how to service and maintain your ground source heat pump.](#)

Find out more

[Visit the Heat Pump Association](#) for a wealth of useful information, including a glossary of heat pump terms and lots of case studies on heat pumps in different types of home.

