

# HEAT PUMPS



YOUR  
**ENERGY**  
YOUR WAY

We've installed hundreds of heat pumps and that means we've met a lot of customers who, like you, have a lot of questions. To help you out we've tried to answer some of the most common ones here, because it's likely they are your questions too.

## HOW DO I KNOW WHICH SIZE OF HEAT PUMP I NEED?

A heat pump operates on the principle of compensating for heat loss, it is therefore sized by doing a full property room-by-room heat loss calculation.

For each room, we work out the heat loss in kW. A value for the whole house heat loss can therefore be calculated. Depending on this value, the heating system can be designed. This includes a recommended heat pump size, radiator sizes/underfloor heating pipe spacing and heating flow

## WHAT ARE U VALUES?

A u value is a measure of the thermal transmittance of a material – or how easily heat moves through it. The difficulty with heat loss calculations is that we sometimes have to make assumptions about u values based on the age of the property. We have to assume that the builders of your house did keep to the building regulations valid at the time of build.

## WILL A HEAT PUMP KEEP MY HOUSE WARM ENOUGH?

When we do a survey we ask you what are your preferred room temperatures and we size the heat pump based on these. As long as the heat pump is properly designed, it will keep your house warm on a cold winter's day even if you want to keep the house at 23 degrees.

## DOES MY HOUSE NEED TO BE REALLY WELL INSULATED FOR A HEAT PUMP TO WORK?

We have installed heat pumps very successfully in Edwardian, Victorian and Georgian houses. The key things are to insulate the loft with around 30cm of insulation, have double glazing throughout and get rid of draughts. That doesn't mean that a heat pump wouldn't work in a draughty house with no loft insulation and single glazing, just that it would be expensive to run.

## WHY ARE DRAUGHTS SUCH A PROBLEM?

If your house is draughty it will have two impacts. The movement of air will create a sensation of cold even when the room temperature is warm. On a cold day a leaky house can have 2 or 3 air changes per hour. This means that the whole house volume of warm air is swapped for cold air 2 or 3 times an hour. This makes a lot of extra work for any heating system.

## WHAT MAKES OF HEAT PUMP DO YOU INSTALL?

Once the required size of your heat pump has been calculated, the choice of model and manufacturer needs to be made. A number of factors are taken into consideration including type of refrigerant used, look, size, and sound power levels.

Controls are also key. Vaillant heat pumps have excellent controls and Samsung heat pumps work well with the Homely smart thermostat, which is able to respond to the way that your own house heats and cools.

### WILL IT GET MY HOT WATER HOT ENOUGH?

You may have heard people say that heat pumps aren't able to heat hot water properly. This is not true. In order to keep efficiency high, we do recommend that you store hot water in your cylinder at 50 degrees rather than the normal 60 degrees.

### WILL I HAVE TO CHANGE ALL MY RADIATORS?

Typically we find that we change 2 – 6 radiators per job, but it very much depends on the house. The reason for this is that the heat pump heats your home much more gently than a gas boiler.

### WILL THE HEAT PUMP HAVE TO RUN ALL THE TIME?

People often think that the heat pump will have to run all the time in the winter and they worry about the noise and electricity consumption. This is a misunderstanding. We recommend that you don't keep switching your heating on and off all the time like you might do with a gas boiler. Heat pumps are not very efficient when switched on in the morning and evening. Instead we recommend that you leave the heat pump switched on very much like you leave your fridge switched on. You will be aware that sometimes your fridge clicks on and makes a noise, then it goes quiet. This is very much like a heat pump – you ask it to keep your home at a set temperature and it will switch on and off as required to keep your home to that temperature.

### WILL I HAVE TO KEEP THE HEAT PUMP ON AT NIGHT?

Heat pumps do need to be allowed to come on at night, because they are sized to keep your house warm, not to have to work really hard in the morning to get your house back up to temperature.

### HOW LONG DO HEAT PUMPS LAST?

A well installed heat pump should keep you warm for 15 – 20 years. All our heat pumps are warranted for 7 years.

### CAN HEAT PUMPS COOL AS WELL?

In theory, yes. However, heating systems in the UK are typically radiator based and putting cool water through a radiator is not an effective way of cooling a room. Underfloor heating can take cool water, but both of these solutions suffer from condensation risks and the fact that cool air falls whereas hot air rises.

We recommend that if you want cooling that you talk to us about an air conditioning unit installed at the same time as your heat pump.

Please feel free to call us on

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or email us at

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