



Electric Heating Fact Sheet

What are the main types of electric heating?

There are two types of electric heating available: **convector heaters** and **radiant heaters**. Both have their pros and cons and therefore it's important to consider the way in which a space is used when determining what the best heating solution is for your business.

What type of heater do I have?

Convector heaters work by warming the air nearest the heater which then naturally circulates around the room to provide even heating around the room. Although, convector heaters take some time to heat up a room, if you are looking to heat a whole room for long periods then convector heaters are a good option.

Best for heating a whole room for long periods

A few examples of convector heaters and how they operate are shown below:

Convector Heaters	Direct Electric Heater	Oil Filled Heater	Night Storage Electric Heater
Looks like?			
How does it work?	Air is drawn over the heating element and the warmed air is naturally circulated around the room.	The oil within the radiator is electrically heated. As the temperature of the oil rises it heats the surrounding air.	A 'store' of internal clay or ceramic bricks is heated at night (using a cheap Economy 7 tariff) and the stored heat is then released during the day.
Cost? 1.5kW Unit	£25-75 (Freestanding) £100-£150 (Wall Mounted)	£50-£75 (Freestanding) £200-£300 (Wall Mounted)	£300-£600 (Wall Mounted)
Pros	<ul style="list-style-type: none"> • Low unit cost • Easy to install 	<ul style="list-style-type: none"> • Retains heat for period after switching off • Easy to install 	<ul style="list-style-type: none"> • Lower energy bills when charged overnight on Economy 7 Tariff
Cons	<ul style="list-style-type: none"> • Costly to run if not controlled effectively • Cheaper units can be unreliable 	<ul style="list-style-type: none"> • Costly to run if not controlled effectively 	<ul style="list-style-type: none"> • High unit and install cost • Can run out of heat if not fully charged overnight



Radiant heaters are less common than convector heaters and work by warming objects and people directly rather than warming the air around them. A good example of radiant heating is the warmth you feel from the sun on a winter's day when the surrounding air is cold.

Radiant heaters are a good option for the quick provision of heat, and in draughty areas where it's better to heat people rather than the whole space such as till operators in shops or the reception area of a larger space. However, as radiant heaters are directional and don't heat the air in a room, 'cold spots' can become apparent and may therefore not provide the same level of comfort as convector heaters.

Best for instant heating and in draughty areas

A few examples of radiant heaters and how they operate are shown below:

Radiant Heaters	Infrared Panel Heater	Halogen Heater
<p>Looks like?</p>  	<p>How does it work?</p> <p>Installed on walls or ideally ceilings. Heating is directional, they are most effective when positioned in the centre of a room (or evenly spaced) and free of obstructions.</p> <p>Cost? £200-£400 (1kW)</p>	 <p>How does it work?</p> <p>Halogen heaters operate in the same manner as infrared heaters. They can be used indoors but are more commonly found in outdoor locations such as restaurant beer gardens.</p> <p>Cost? £100-£150 (1.5kW)</p>
<p>Pros and Cons for all radiant heater types:</p>		
<p>Pros</p>	<ul style="list-style-type: none"> • Lower power requirement compared to standard convector heaters for same level of heating - 1kW infra-red panel ≈ 1.5-3kW convector heater • Easy to install and provide instant heat 	
<p>Cons</p>	<ul style="list-style-type: none"> • Heating is directional and so whole room may not be heated resulting in 'cold spots' 	

How much does my electric heating cost me?

A single 1.5kW direct electric heater used for 3 hours a day throughout January will contribute £20 to your energy bill. An equivalent infrared panel heater will cost approximately £13. Therefore, if you have lots of electric heaters then it's important to ensure that heaters are not being used unnecessarily.

Heating controls are essential in helping to reduce the electric heating costs of your business. When purchasing new heaters, ensure that they have an in built timer and thermostat to allow you to effectively control when your heaters operate and limit the temperature set-point to 21°C or '3' if the heater has a numbered dial.

For existing heaters without an in-built timer, a low cost plug socket timer (<£10) is a great investment to make and in most cases will pay for itself in energy savings in less than a year.