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We provide the options - you choose the solution.

With a full range of hydronic heat emitters, electric heat emitters and controls, **MYSON** is the UK's leading expert on the control and distribution of heat.

MYSON is the only manufacturer who can truly offer an unbiased view on how best to heat buildings both now and in the future.

With this in mind, this booklet has been created to help you better understand all your heating options and how to select the best heating solution for your specific needs.

Did you know...?

As a result of continued innovation and improved technology, many heat emitters are now equally as effective with all heat sources, whether the flow temperature is as high as 85°C or as low as 35°C.

More Products. More Options.

MYSON is one of the oldest and most respected names in the British heating industry. It has a heritage stretching back to the early days of central heating.

Today, **MYSON** is part of a Finnish, family owned company, Rettig ICC (Indoor Climate Comfort). Rettig ICC has factories and sales operations in all major European markets, China and the USA. With annual sales of over EUR500 million, Rettig ICC is Europe's leading radiator, controls and underfloor heating company.

Consequently, **MYSON** now offers an unrivalled selection of heating solutions. Our commitment to maximising the role of innovation and technology in our operations means that we are constantly improving our existing products whilst also developing new ideas to satisfy both current and future heating requirements.

Whether you are planning a new build project, doing renovation work or adding an extension, **MYSON** has the optimum heating solution for you. Choose **MYSON** and you can be confident that you are using the highest quality products and receiving the highest quality service available.

Designing a Modern Heating Solution.

Currently in the UK we use vast quantities of energy in our buildings. The power used to light, heat and operate them accounts for over 25% of our national CO₂ emissions. With 85% of this energy being used to heat homes and provide hot water, it is clear that our industry has a big part to play in energy conservation.

In today's world of growing environmental concerns and rising fuel prices it is clear that the challenge for modern heating solutions is how to provide indoor comfort in the most energy efficient way possible.

Designing and installing energy efficient heating solutions are essential parts of reducing energy consumption in buildings and, ultimately, achieving national targets for reducing CO₂ emissions.

As one of the UK's leading brands, **MYSON** fully supports this commitment to reducing CO₂ by providing efficient products which are capable of operating effectively at lower flow temperatures.



All **MYSON** products featuring our Eco logo are renewable energy compatible.

Facts about the UK Market.

Did you know...?

- Currently, over 90% of the 26 million homes in the UK have a wet heating system.
- 190 million radiators are currently installed within the UK.
- Radiators remain the first choice emitter within the UK new build sector, accounting for over 90% of all installations.
- In 2010, over 6 million radiators were sold in the UK.
- In 2010, circa 1.5 million boilers and 20,000 heat pumps were sold in the UK.
- As a result of improved insulation levels and technical innovation in radiator design, average radiator sizes have fallen in recent years.
- Due to the growing use of renewable technology, low temperature heating systems are becoming more common place.
- Homes in existence today will still account for over 70% of the UK's housing stock in 2050. In order to have a big impact on CO₂ emissions current housing stock must be addressed.
- This means that panel radiators are set to continue their popularity due to their low cost, ease of installation and ability to operate efficiently with renewables.

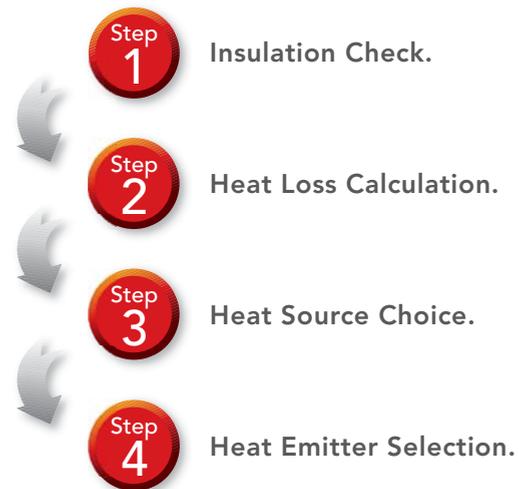
Four Steps to Energy Efficiency.



At **MYSON**, we believe that, in order to achieve both a high level of comfort and energy savings, all aspects of a heating system need to be considered together at the design stage.

Installing new technology alone will not deliver the best possible results in terms of cost and emissions savings.

MYSON recommends a 'four step' approach to designing an energy efficient heating solution:





Insulation Check.

If a building does not meet modern insulation standards, a heating system will never be truly energy efficient.

An essential starting point, before even considering new heating technologies, is always to ensure that sensible insulation decisions have been taken. Is loft and cavity wall insulation in place? Are doors and windows double glazed? If not, energy will be wasted unnecessarily and heating benefits will be reduced.

For a small amount of capital investment significant savings can be made, both in financial terms and in emitted CO₂ levels (see table opposite).

Did you know...?

Around 50% of the heat lost in a typical building is through the walls and loft.



Domestic Efficiency Measures - Estimated Costs & Savings

Measures	Average cost (£)	Cost saved (£/yr)	Carbon saved (kgC/yr)	Pay-back (yrs)
Hot water cylinder insulation	14	29	53	0.5
Cavity wall insulation	342	133	242	2.6
Loft insulation (full & top-up)	284	104	190	2.7
Improved heating controls	147	43	77	3.4
Ground source heat pump	4,725	368	990	12.8
Photovoltaic (PV) electricity	9,844	212	249	46.4
Solar water heating	2,625	48	88	54.7

Source: The First Draft Illustrative Mix of Measures for EEC 2008-11 (Defra), 2006 and Buildings Research Establishment (BRE), 2005.

For expert advice on insulation, please go to:

www.energysavingtrust.org.uk

www.nationalinsulationassociation.org.uk



Heat Loss Calculation.

In order for a high level of comfort and energy savings to be achieved, heat loss calculations need to be made for each individual room in a building.

A range of factors, which vary from room to room, need to be taken into account:

- size of walls
- whether walls are interior or exterior
- size of windows
- number of doors
- building materials used and their insulation properties.

One size of heat emitter does not fit all rooms! For example, a common mistake made when designing low temperature heating systems is failure to allow for lower flow temperatures in the system. A consequence could be underestimating the size of emitters required to keep a room comfortable.

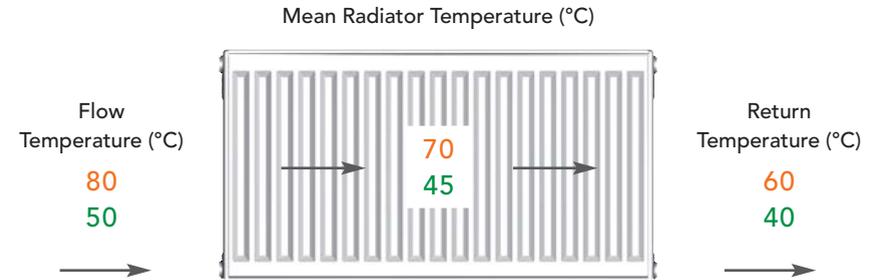
Correct system designs with lower flow temperature systems become even more critical as small changes in system design can have a significant impact on system performance.

WARNING - Generalised calculations can be very risky!

MYSON has developed a Heatloss CD, which enables you to make these calculations for your building and to specify the correct size and number of heat emitters required. Contact Customer Services on **0845 402 3434** to obtain your copy.

How the Delta T (ΔT) Table Works

Based on room temperature of 20°C and radiator output of 1kW



Boiler ($\Delta T 50^{\circ}\text{C}$)

Renewable ($\Delta T 25^{\circ}\text{C}$)

Boiler ($\Delta T 50^{\circ}\text{C}$)

Difference between mean radiator temperature and room temperature is $70^{\circ}\text{C} - 20^{\circ}\text{C} = 50^{\circ}\text{C}$.
From conversion factor table, delta T (ΔT) factor for 50°C difference is 1.

If **MYSON'S** stated output is 1kW then multiplying this by 1 shows actual radiator output in these conditions is 1kW.

Renewable ($\Delta T 25^{\circ}\text{C}$)

Difference between mean radiator temperature and room temperature is $45^{\circ}\text{C} - 20^{\circ}\text{C} = 25^{\circ}\text{C}$.
From conversion factor table, delta T (ΔT) factor for 25°C difference is 0.41.

If **MYSON'S** stated output is 1kW then multiply this by 0.41 to get actual radiator output in these conditions ($0.41 \times 1 = 0.41\text{kW}$). You therefore need to use at least two of this size radiator to meet 1kW requirement or choose a more powerful radiator with an output of 2.44kW as $0.41 \times 2.44 = 1\text{kW}$.

NB: Please reference **MYSON** literature for a table of conversion factors.

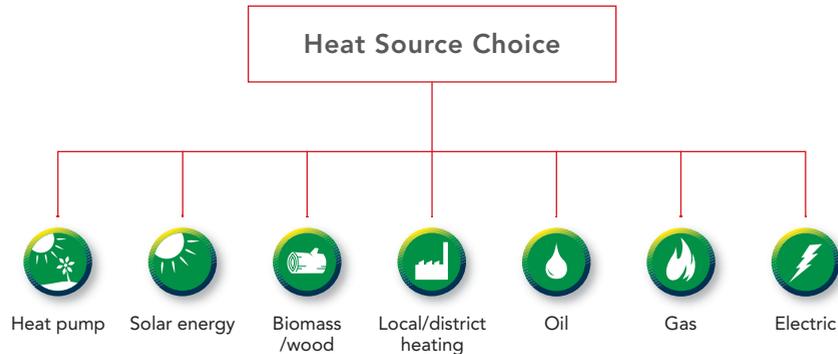
Step 3

Heat Source Choice.

In recent times gas boilers have overwhelmingly been the UK's most popular choice for generating heat in buildings. Today, however, the list of options is growing, with renewable technologies such as heat pumps becoming more popular.

If designed and installed correctly these new options can deliver energy efficiency savings compared with gas boilers, however, the upfront capital costs are significantly higher. Initial investment can be several £000s greater, even on a single property.

Individual choices need to be made based on personal values and the costs and benefits associated with each available heat source.



Did you know...?

- Currently, boilers account for around 60% of the CO₂ emissions in a gas heated home. From October 2010 any new gas boiler must be a high efficiency condensing boiler.
- An air source heat pump extracts heat from the outside air in the same way that a fridge extracts heat from its inside. It can extract heat from the air even when the outside temperature is as low as -15°C.
- Ground source heat pumps use pipes buried in the garden to extract heat from the ground. Beneath the surface, the ground stays at a fairly constant temperature so a ground source heat pump can be used throughout the year.
- Solar electricity systems capture the sun's energy using photovoltaic (PV) cells. The cells convert sunlight into electricity and don't need direct sunlight to work - some electricity is still generated on cloudy days.
- Biomass boilers generally burn wood pellets, chips or logs and are available fitted with automatic fuel feeders. They can be used to power central heating and hot water boilers or to provide warmth in a single room.
- District heating is much more common in some European countries than in the UK. For example, it provides around 60% of Denmark's heating. A number of successful district heating schemes do exist in the UK though, using both fossil fuels and biomass.

Step 4

Heat Emitter Selection.

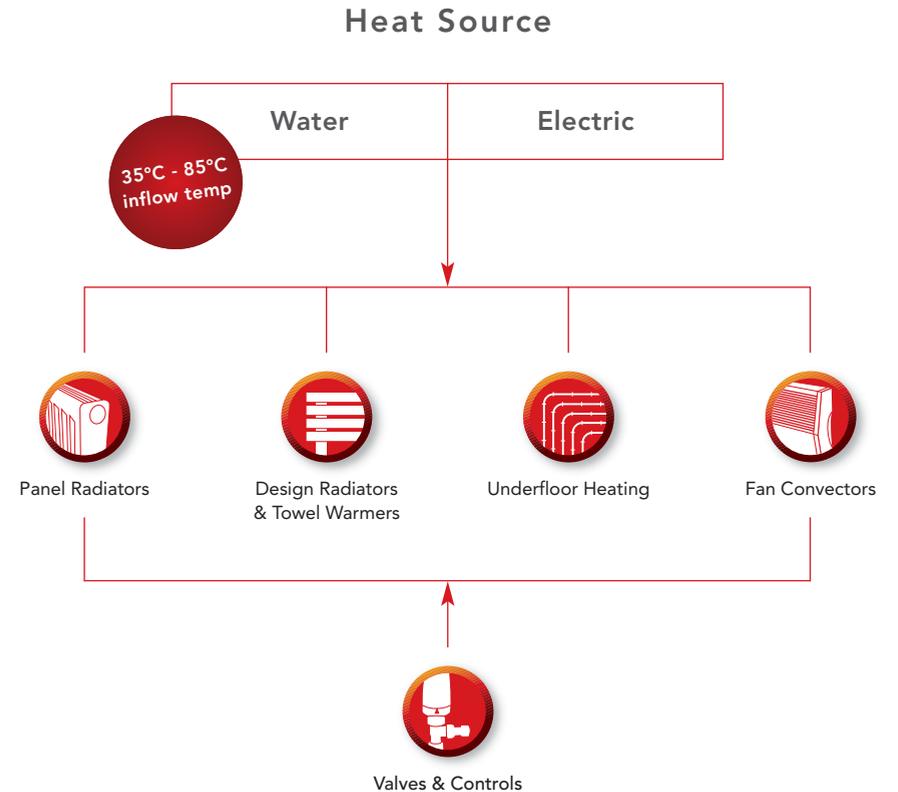
The Heating Experts

Only **MYSON** offer a complete selection of heat emitters and controls. No one else can supply the same range of radiators, towel warmers, underfloor heating, fan convectors, electric heaters and controls as **MYSON**.

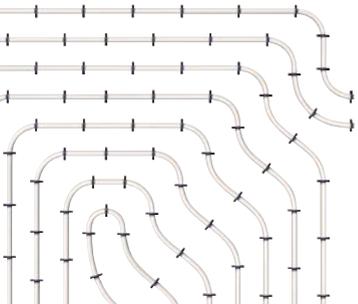
Whatever your choice of heat source, **MYSON** can supply heat emitters that will work efficiently and reliably with your system. You can trust **MYSON** to help you identify the best heat emitters for your needs.

Energy efficient heating systems require effective temperature control. **MYSON** produce a complete range of innovative valves and controls that are easy to use, stylish and accurate.

MYSON are heating experts and, due to our comprehensive knowledge and product range, we are uniquely placed to offer unbiased advice on the most suitable type of heat emitter for every type of application.



We Provide the Options - You Choose the Solution.



Summary Table of Basic Heat Emitter Considerations

	Panel Radiators	Fan Convectors	Underfloor Heating	Design Radiators & Towel Warmers	Electric Heating
Energy Efficiency	*****	*****	*****	*****	*****
Ease of Installation	*****	****	**	*****	*****
Life Span	****	***	*****	****	***
Appearance	***	***	*****	*****	***
Cost	*****	***	**	****	****
Suitability for New Installation	*****	*****	*****	*****	*****
Suitability for Retro Fitting	*****	*****	**	*****	*****

Key:
 Worst *

Best *****

Panel Radiators.



Panel radiators are the UK's favourite heat emitters. Millions are already installed in buildings across the country and their popularity looks set to continue.

Modern panel radiators offer a great range of benefits, including unbeatable value, impressive performance and excellent environmental credentials. A wide range of styles, outputs and sizes are available.

Did you know...?

- Panel radiators work very efficiently with low water temperature systems such as heat pumps.
- As a result of improved design, modern panel radiators with convector fins emit significantly higher outputs whilst using less steel.
- Panel radiators are the UK's most cost effective heating option.

All **MYSON** panel radiators are manufactured in the UK and come with a 10 year warranty. Our range includes round top and classic seam top units, both of which are available in conventional and compact styles.

The **MYSON** product range is now also more widely available than ever before through merchants. For details, contact Customer Services on **0845 402 3434** or visit www.myson.co.uk.

Reasons to Choose Panel Radiators.



Environmental

- Suitable for use with all heat sources, including renewable technologies.
- Able to operate with low water temperatures.
- Controllable heat using a range of valves.
- Hydronic models 100% recyclable.



Performance

- Rapid and accurate response to changing room temperature needs.
- Delivers high heat outputs from low energy consumption.
- Wide range of sizes and outputs to meet individual room requirements.
- Will operate with water temperatures from 35°C to 85°C.
- 10 year warranty provided on all **MYSON** panel radiators.



Cost

- Lowest capital investment costs of all heat emitters.
- Low life cycle costs.



Installation and Maintenance

- Easy to install and maintain.



Appearance

- Suitable for use with all room decors.
- Wide range of design styles available.



Emotive

- Tried and tested heating solution.
- Great way of drying clothes indoors!



Fan Convectors.

HI-LINE.



LO-LINE.



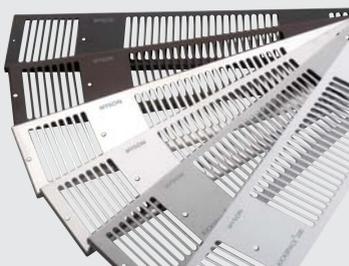
SLIM-LINE.



iVECTOR.



KICKSPACE®.



Fan convectors have been available for many years, often being used to supplement the heat provided by an existing heating system. They are a valuable heating/cooling option which provide high outputs where space is limited.

Modern units are compact in size and suitable for use with heat pumps. They provide accurate, responsive and controllable heat through integral thermostats and a selection of fan speeds. A fan convector is often the fastest means of bringing a cold room up to the desired temperature.

More Quality. More Service.

MYSON'S choice of plinth and wall mounted fan convectors provide original and creative solutions to modern heating problems and offer advantages and features that are not always available from traditional heat emitters. All of our products are manufactured in the UK and are therefore of a superior quality, operate to the highest efficiency and are the quietest product in their class. All **MYSON** fan convectors carry a 2 year warranty.

The **MYSON** product range is now also more widely available than ever before through leading national heating and plumbing merchants. For details, contact our Customer Services direct on **0845 402 3434** or visit **www.myson.co.uk**.

Reasons to Choose Fan Convectors.



Environmental

- Fan convectors operate very effectively at low water temperatures.
- Flexible heating option that can operate in individual rooms only, as and when required.



Performance

- Low water content means fast response and quick warm up times.
- Accurate control of fan speeds and, therefore, room temperature.
- High output with low flow temperatures due to high efficiency heat exchanger.
- Cooling option for summer months.



Cost

- Cost effective alternative within low temperature systems.



Installation and Maintenance

- Easy to install and maintain.
- Easily added to an existing central heating system, just like a radiator.



Appearance

- Compact in size due to high efficiency heat exchanger.
- Occupies less space than a panel radiator of equivalent output.
- Options, such as plinth heaters, can free up even more wall space.



Emotive

- Good heat distribution through forced air convection.
- Fastest way of heating a room quickly.



Design Radiators & Towel Warmers.

DÉCOR.



BUTTERMERE.



SEINE.



AVONMORE.



BANI.



FOWEY.



Design radiators and towel warmers have grown significantly in popularity in recent years as people have come to realise that radiators are an important visual element of interior decoration. You can enhance the decor of any room by choosing from a range of exciting colours and designs.

MYSON offer over 40 different designs to complement and enhance the decor of any room, whether contemporary or traditional.

- Wide range of styles and sizes.
- Suitable for all types of buildings.
- Hydronic and electric fuel types.
- Brass and steel construction.
- Variety of colours and metallic finishes.

More Quality. More Service.

All **MYSON** hydronic towel warmers and design radiators have a 10 year warranty. Our range includes both contemporary and traditional designs with a choice of square, round and flat tube units.

The **MYSON** product range is now also more widely available than ever before through leading national heating and plumbing merchants. For more details, contact Customer Services direct on **0845 402 3434** or visit **www.myson.co.uk**.

Reasons to Choose Design Radiators & Towel Warmers.



Environmental

- Suitable for use with all heat sources, including renewable technologies.
- Able to operate with low water temperatures.
- Hydronic models 100% recyclable.



Performance

- Rapid and accurate response to changing room temperature needs.
- Wide range of sizes and outputs to meet individual room requirements.
- 10 year warranty provided on all **MYSON** hydronic design radiators and towel warmers.



Cost

- Wide range of price points, offering a choice of investment levels.
- Low life cycle costs.



Installation and Maintenance

- Easy to install and maintain.



Appearance

- Wide range of sizes and styles to suit every decor.
- Act as decorative features as well as heat emitters.
- Towel warmers combine visual appeal with functionality.

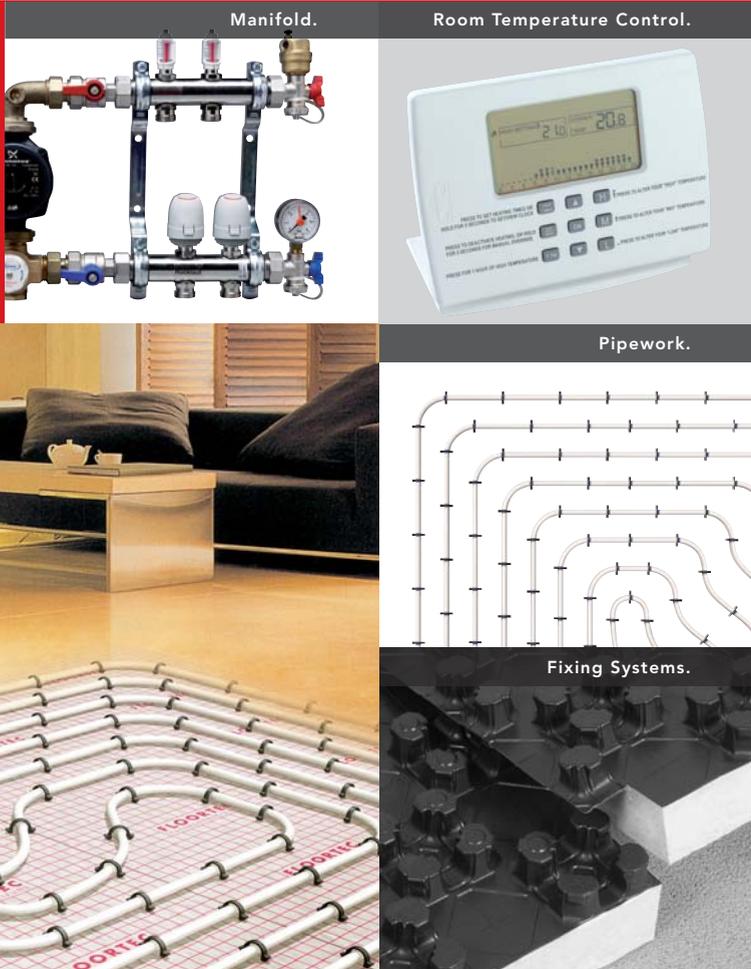


Emotive

- Endless possibilities to enhance individual rooms and create a point of difference.
- Best way to dry towels and keep them warm!



Underfloor Heating.



In recent years, underfloor heating has been widely acknowledged as one of the most effective methods of heating. As such, it has become the fastest growing market for both domestic and commercial heating sectors.

Underfloor heating works by circulating warm water through a series of continuous pipe loops fitted underneath floors. The pipework creates a large radiant surface which heats a building from the floor upwards and can be used with most types of floors and floor coverings.

Underfloor heating provides a number of usage options. It can be installed throughout a home, on one level only or in individual rooms. It can also be used alone or combined with radiators or other heating systems elsewhere.

More Quality. More Service.

MYSON FLOORTEC provides a comprehensive range of underfloor heating materials. These are available as either bespoke systems, single zone packs or as individual components. We offer a choice of five fixing systems for use with screeded, floating or joisted floors. We supply pipework, room temperature controls and water temperature controls.

- Full planning, design and comprehensive technical support service, including integrated radiator schedule planning.
- Quotations are turned around within 48 hours.
- Deliveries arrive within 5-7 working days from receipt of order.

For further information contact our Underfloor Heating Team direct on **0845 402 3434** or visit **www.myson.co.uk**.

Reasons to Choose Underfloor Heating.



Environmental

- Suitable for use with all heat sources, including renewable technologies.
- Individual room control for extra efficiency.
- Smart start technology with programmable range of thermostats can provide savings on fuel bills.



Performance

- Individual room control for greater flexibility.
- Wide range of fixing methods available to suit all floor constructions.
- Low system running temperatures, from 35°C.
- Uniform heat, even in the largest rooms.



Cost

- Minimal ongoing maintenance costs.



Installation and Maintenance

- Can be used with most types of floors and floor coverings.
- Can be installed throughout a home, on one level only or in individual rooms.
- Can be used alone or combined with radiators or other heating systems.



Appearance

- Virtually invisible so it will not interfere with living space or decor.
- Wide range of stylish thermostats available.



Emotive

- Increasingly popular choice of heating.
- You won't get cold feet and you will keep a cool head!



Electric Heating.

FINESSE.



COLUMN.



LEGATO.



INNOKO.



Underfloor Heating.



Electric heating has grown in popularity in recent years. This trend has been driven by heating professionals who recognise that in certain situations these systems offer advantages over conventional hydronic systems, such as allowing simple new build construction and renovation methods to be applied.

Electric heating is easy to install as it doesn't require any pipework, just a connection to an electrical circuit. This also means that electric heaters can be installed in almost any location.

Electric heaters are simple additions to new build properties and their ease of installation can also minimise disruption during replacement or refurbishment work in existing properties.

It is also easy and relatively inexpensive to add electric heaters to an existing central heating system at any time in the future as a building changes e.g. in home extensions where an existing system has insufficient capacity to heat extra radiators or adding electric towel rails to a bathroom.

More Quality. More Service.

MYSON offer electric options for all heating applications - giving a superior choice to that of any other manufacturer. Our electric product range includes radiators, underfloor heating, designer heating, towel warmers and fan convectors. This product range is now also more widely available than ever before through leading national heating and plumbing merchants. For more details, contact our Customer Services direct on **0845 402 3434** or visit **www.myson.co.uk**.

Reasons to Choose Electric Heating.



Environmental

- Accurate and rapid response to changes in room temperature.
- Long life expectancy of equipment due to absence of moving parts.



Performance

- Electric heaters are 100% efficient at point of use as all electricity used is converted directly into heat.
- Wide range of outputs and sizes available.
- Instant heat provides rapid response to changes in room temperature.



Cost

- Low purchase and installation costs.
- Low life cycle costs.



Installation and Maintenance

- Easy to install and maintain.
- Few restrictions in layout or design as there is no pipework.
- Easy to add further products at a later date.
- No maintenance or safety checks required.



Appearance

- Can be installed almost anywhere in a room.
- Wide range of design styles available.



Emotive

- Added comfort of towel warmers and underfloor heating in bathrooms.
- Safe, clean and easy to operate.



Valves & Controls.

Manual Radiator Valves.



Decorative Radiator Valves.



Electronic Controls.



Motorised Valves.



Thermostatic Radiator Valves (TRV).



Energy efficient heating systems require effective temperature control. The right heating controls and knowing how to set them correctly is key to getting the best performance from any system. **MYSON** produce a complete range of innovative valves and controls that are easy to use, stylish and accurate. These give heating installers better products and building owners easy to use and aesthetically pleasing controls. For everything, from a simple manual valve through to the new programmable room thermostats, look no further than **MYSON** for your controls.

More Quality. More Service.

The **MYSON** range includes manual radiator valves, decorative radiator valves, thermostatic radiator valves (TRV's) and motorised valves.

MYSON'S range of electronic controls include easy to use, programmable thermostats, simple multi-functional programmers and full system control packs.

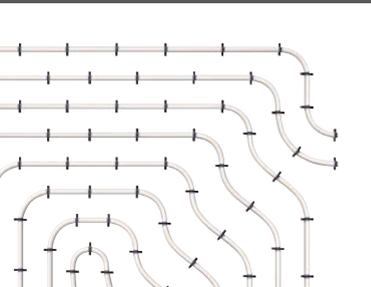
For full details, contact Customer Services direct on **0845 402 3434** or visit www.myson.co.uk.

Mix 'n' Match Heating Solutions.

Panel Radiators.



Underfloor Heating.



Plinth Heaters.



Towel Warmers.



It is not uncommon that the best heating solution for a building is to incorporate more than one type of heat emitter. For example, one solution for new build is to install underfloor heating downstairs and radiators upstairs.

Also, if you have a low temperature system it may be that radiators are not the best heating solution for every room. Electric heating can also be used alongside hydronic heat, particularly to heat rooms such as bathrooms, kitchens and utility rooms.

In situations such as these, system design becomes even more critical. **MYSON**, the heating experts, can provide all the advice and help you need to make the best decisions on heating solutions. Below are some of the **MYSON** products which can be mix 'n' matched within a building to provide an efficient solution:

Panel Radiators - **MYSON** has a wide range of styles, outputs and sizes available. Panel radiators work very efficiently with low water temperature systems and are the UK's most cost effective heating option.

Underfloor Heating - **MYSON FLOORTEC** provides a comprehensive range of underfloor heating materials for use in any room. These are available as either bespoke systems, single zone packs or as individual components.

Plinth Heaters - **MYSON'S KICKSPACE®** provides original and creative solutions to modern heating requirements. Ideal if you want to maximise space in your kitchen.

Towel Warmers - **MYSON'S** vast range of contemporary or traditional towel warmers act as a decorative feature as well as a functional heat source.

Mix 'n' match solutions will become even more common in the future as low water temperatures become more popular.

Jargon Buster.



2050 Pathways Analysis The 2050 Pathways Analysis report presents a framework to consider some of the options required to meet the UK's 80% emissions reduction target by 2050 in a range of ways.

ASHP Air Source Heat Pump - takes heat from the outside air and uses it to heat a house.

BEAMA is the British Electrotechnical and Allied Manufacturers Association. BEAMA is the independent expert knowledge base and forum for the electrotechnical industry for the UK and across Europe.

Biomass is biological material from living, or recently living organisms, such as wood and alcohol fuels. Biomass is commonly plant matter incinerated to generate electricity or produce heat.

BREEAM (BRE Environmental Assessment Method) is the leading and most widely used environmental assessment method for buildings.

CESP The Community Energy Saving Programme (CESP) is part of the government's Home Energy Saving Programme. It requires gas and electricity suppliers and electricity generators to deliver energy saving measures to domestic consumers in specific low income areas of Great Britain.

CfSH The Code for Sustainable Homes measures the sustainability of a home against design categories, rating the 'whole home' as a complete package.

Condensing Boiler A condensing boiler extracts additional heat from the waste flue gases by condensing any water vapour to liquid water, thus recovering its latent heat.

CoP Coefficient of Performance - is the ratio of the amount of heating or cooling provided by a heat pump compared to the energy consumed by it. The higher the CoP the more efficient the system. This shall vary depending on day to day operating conditions.

CRC Energy Efficiency Scheme The UK's mandatory climate change and energy saving scheme (formerly known as the Carbon Reduction Commitment) to improve energy efficiency in large public and private sector organisations.

DECC The Department of Energy and Climate Change.

Delta T (ΔT) is the difference between the average surface temperature of the heating emitter and the ambient air temperature. This is normally displayed at $\Delta T50$ for panel radiators. A high Delta T (ΔT) increases heat output and a lower Delta T (ΔT) reduces heat output.

EPC Energy Performance Certificates are required whenever a building is built, sold or rented out. The certificate provides 'A' to 'G' ratings for the building, with 'A' being the most energy efficient and 'G' being the least.

EST The Energy Savings Trust, the UK's leading impartial organisation helping people to save energy and reduce carbon emissions.

FiT is the Feed-in-Tariff. Once you have a microgeneration technology installed you should experience a monthly reduction in your electricity bill and may then receive an income from your Feed-in-Tariff provider.

Fuel Poverty is said to occur when, in order to heat its home to an adequate standard of warmth, a household needs to spend more than 10% of its income on total fuel use.

Green Deal The Green Deal, to take effect from Autumn 2012, is the coalition Government's initiative to support the implementation of energy efficiency measures.

GSHP Ground Source Heat Pump - takes heat from the ground and uses it to heat a house.

Heat Loss The summation of heat lost from individual fabrics of a room or building added to an allowance for the air in the room/building to be replaced with outside air at a given number of times each hour.

HHIC is the Heating and Hot water Industry Council and is a member organisation committed to effectively driving, supporting and promoting the sustained growth of the UK domestic heating and hot water industry.

Load Compensator is a device or a feature within a device, which adjusts the temperature of the water circulating through the heating system according to the temperature measured inside the building.

MARC Manufacturers Association of Radiators and Convectors - Collective body of UK manufacturers.

MCS The Microgeneration Certification Scheme (MCS) is a product and installer certification scheme that covers all microgeneration technologies. The MCS mark is owned by the Government.

Micro CHP Micro Combined Heat & Power is the simultaneous production of heat and electricity in individual homes.

MVHR Mechanical Ventilation Heat Recovery units allow the air in a house to be refreshed without losing the heat it contains.

Night Setback Night setback system will lower the room temperature at night, which reduces heating costs.

Optimum Start/Stop These control when your heating system turns on and off, so that your building is sufficiently pre-heated, without wasting energy.

Passiv Haus is a voluntary standard that results in ultra low energy buildings that require very little energy for space heating and cooling and are able to do without conventional heating systems.

PV Photovoltaics is a method of generating electrical power by converting solar radiation into direct current electricity.

RD SAP is the Government's Reduced Data Standard Assessment Procedure Energy Rating and is applied to existing residential properties in the UK.

RES The UK Renewable Energy Strategy (RES), published in July 2009, set out a path towards achieving the UK's target of sourcing 15% of overall energy consumption from renewable sources by 2020.

RHI Renewable Heat Incentive Scheme. The scheme will make payments to those installing renewable heat technologies that qualify for support, year on year, for a fixed period of time. It is designed to cover the difference in cost between conventional fossil fuel heating and renewable heating systems (which are currently more expensive), plus an additional rate of return on top.

SAP is the Government's Standard Assessment Procedure for Energy Rating of Dwellings.

SEDBUK Seasonal Efficiency of Domestic Boilers in the UK.

Smart Meter A smart meter is usually an electrical meter that records consumption in intervals of an hour or less and communicates that information at least daily back to the utility for monitoring and billing purposes.

Solar Thermal is a method of generating heat for hot water or domestic heating by converting solar radiation into hot water.

SPF Seasonal Performance Factor - is a measure of the overall heating efficiency of a heat pump.

U Value is the overall heat transfer coefficient and describes how well a building element conducts heat. It measures the rate of heat transfer through a building element over a given area.

UFH Underfloor Heating.

UHMA is the trade association for all forms of surface heating and whose aim is to set and enforce standards of technical competence for materials, design and installation. UHMA is a division of BEAMA Energy.

Weather Compensator is a device or a feature within a device, which adjusts the temperature of the water circulating through the heating system according to the temperature measured outside the building.