### heating guide



#### Viessmann heating systems ...



... the power to choose

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# viessmann heating systems

Viessmann heating systems are at the cutting edge of technology, setting new standards in environmental protection, energy saving and design.

A new heating system is an investment that requires careful consideration and should be matched to the requirements of your family and your home.

This guide provides a useful overview of heating, heating developments, environmental protection and energy saving.

At Viessmann we can advise you on the best solution from our comprehensive range of condensing boilers, heat pumps, solar panels, radiators and underfloor heating systems.

## the power to choose



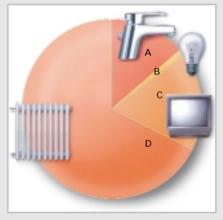
Heat is a major factor in our quality of life. In the production of heat it is important to achieve the right balance between comfort, cost-efficiency, ease of use and environmental protection.

If you are upgrading the heating system in your home you'll find a wide range of new options made available to you, through the latest technological innovations.

With a new-build or renovation project, you have the opportunity to plan and incorporate highly efficient and cost-effective systems into the infrastructure of your home.

Viessmann provides heating solutions for new homes and the modernisation of existing systems, using conventional fuels and renewable energy such as solar panels.

The Vitotec range has been designed to be practical, to make maintenance and service significantly easier, whilst minimising costs.



Average energy consumption in a detached family house

- A Hot water 12%
- C Domestic appliances 11%
- B Light 2%
- D Heating 75%

# heating system experts



To achieve the best results and long term savings, it is important to identify the right heating system as early as possible in your new-build or modernisation project.

Whether you want to harness heat energy from the sun and earth to ensure you have sufficient hot water for the swimming pool, or just need an efficient boiler and radiator combination for your home, we can advise on the best total heating solution.

At Viessmann we have a team of highly trained staff who will be happy to explain the available options. We also have a network of installers throughout the UK, who have undergone extensive training in the selection, installation and maintenance of Viessmann products.



For advice and information, or to contact your nearest installer, please telephone 01952 675000.



### making the right choice



One of the first decisions to make, will be which fuel/s to use to power your new heating system; oil, gas or renewable energy?

It is important to consider both the shortterm investment and the longer term implications, including the potential energy savings.

#### Oil-fired heating systems

An oil-fired heating system gives you independence. You decide when you buy oil, from whom and how much.

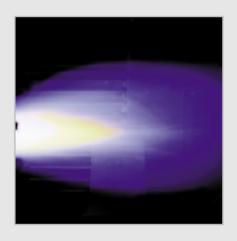
The amount of oil you are able to store will of course depend on the capacity of your oil tank. Usually, a domestic oil tank in a detached family house with a capacity of 3000 to 5000 litres will take up an area measuring 3 - 4 m².

Smaller tanks may be installed with the boiler, to minimise space requirements.

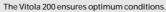
Separate storage facilities are only required for tanks larger than 5000 litres.

Underground tanks, which can store larger volumes are made of more modern materials and do not require maintenance.

Viessmann oil-fired boilers are very userfriendly, reliable and emit a minimum amount of harmful substances.









The Vitoplus 300 is an efficient and safe oil-fired condensing boiler.



#### Gas-fired heating systems

Gas-fired heating systems dominate the new build market with a share of 90%. The main reasons for this dominance are the reduced space required and the connection options offered by a constantly expanding gas supply network.

Modern gas-fired wall-mounted boilers are now so compact and save so much space that they can be installed anywhere in the home; in kitchens, hallways or attics. Gas contains practically no sulphur and is clean and eco-friendly when burned.

Gas also uses condensing technology which is a distinct advantage. This is a process in which the heat content of the heating gas is converted efficiently into heating energy. This increases efficiency rates by more than 10% compared with conventional boilers, so reducing energy consumption. This combined effect not only reduces costs but is also kinder to the environment.

#### Natural heat

There is an increasing focus on the use of renewable energy sources. This is due to a better understanding of the environment, along with an increased awareness of the limited supply of fossil fuels.

Heat pumps and solar systems use sources of energy that are available



The MatriX gas burner produces extremely low emissions of harmful substances

naturally in the earth, groundwater or air. To harness this energy requires costeffective and eco-friendly heating methods that utilise the right combination of devices. The Viessmann solution is future-proof. Vitocal heat pumps and Vitosol solar systems are system technologies with perfectly matched components.

Viessmann also provides the ideal solution for wood-fired and multi fuel heating systems. Modern solid fuel-fired boilers maximise the use of energy in the firewood, by transferring all the heat to the heating water.



Vitogas 100 low-temperature gas boilers

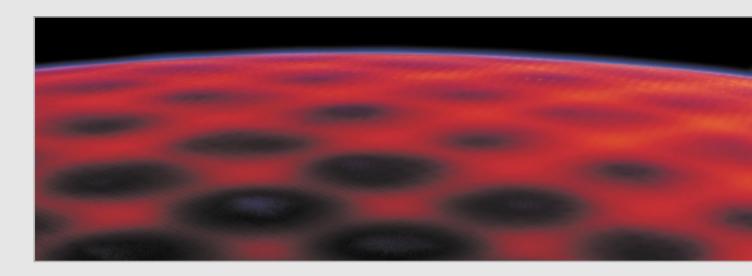


Vitocal 300 heat pump



Vitolig 200 wood gasification boiler

## low-temperature technology



#### Low-temperature technology

The best way to illustrate the benefits and special features of low-temperature technology is to compare it with an old heating system. Older systems usually operate at high constant boiler water temperatures which must reach at least 70-80°C, regardless of how much or how little heat is required.

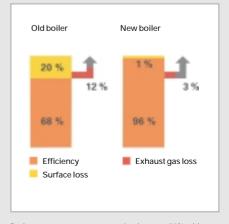
In low-temperature boilers, the temperature of the boiler water is adapted automatically to the outside temperature, meaning they can operate at flexible temperatures as low as 30 - 40°C. This drastically reduces surface cooling and exhaust gas losses, which in turn cuts fuel consumption and protects the environment.

#### Viessmann low-temperature and extralow-temperature boilers for oil and gas

One of the most notable technical developments in low-temperature and extra-low-temperature Viessmann boilers is the biferral composite heat exchange surfaces made from cast iron and steel. Their special design prevents condensate forming, which can lead to corrosion. Viessmann boilers even shut down completely if heat is not required. Modern low-temperature and extra-low-temperature Viessmann boilers achieve standard efficiencies of up to 96%.



Biferral composite heat exchange surfaces made from cast iron and steel



Reduce your energy consumption by up to 30% with a new extra-low-temperature boiler from Viessmann

### condensing technology



#### Condensing technology

Condensing boilers extract almost all of the heat contained in exhaust gases and convert it into additional heat ready for use. Condensing boilers are fitted with high-performance heat exchangers. These cool down the exhaust gases before they are emitted through the chimney in order to condense the water vapour and transfer the condensation heat released to the heating system. This technology enables gas-fired boilers to reach standard efficiency rates of up to 109% (104% on oil-fired boilers). Condensing boilers can be used in any type of application for generating heat or hot water, in system updates or in new builds.

Condensing boilers are particularly appropriate when using lower temperature heating systems, such as underfloor heating, as these temperatures maximise the efficiency. Even standard radiator systems, when applied correctly, will make full use of condensing technology.

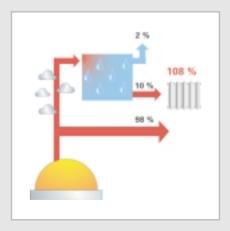
#### Condensing adds value

Unlike low-temperature boilers, the condensation of exhaust gases is encouraged in condensing boilers. In order to avoid damage caused by corrosion, Viessmann manufactures its condensing boilers with heat exchange surfaces made from high-alloy stainless steel. The high levels of efficiency provided by Viessmann condensing boilers reduce your energy consumption levels, cut costs and place a significantly lower burden on the environment. Compared with old heating systems, savings of up to 40% can be achieved.

Whether you choose a modern low-temperature/ extra-low-temperature system or a high-performance condensing boiler, you can be sure of all-round first class quality from Viessmann.



Gas-fired condensing boilers can reach standard efficiencies of up to 109% by extracting additional heat from exhaust gases



Inox-Radial heat exchange surfaces made from stainless steel for oil-fired and gas-fired condensing boilers

## floor-standing boilers



Viessmann Vitotec floor-standing oil-fired and gas-fired boilers are the perfect combination of proven top-class technology and forward-thinking innovations. They provide a complete range of top quality products that are at the cutting edge of technology combined with perfectly matched system technology.

All Viessmann products share one essential feature: high quality comes as standard. This is evident in their operational reliability, long service life, low energy consumption, environmental-friendliness and ease-of-use. The 100, 200 and 300 ranges can provide the ideal boiler for any application.



## at the cutting edge of technology





The Vitocrossal 300 gas-fired condensing boiler, with its standard efficiency of 109%



Heating systems that are fit for the future do not simply meet the requirements of exhaust gas standards, they surpass them. The most impressive feature of the Vitocrossal 300 gas-fired condensing boiler and the MatriX gas burner is their ability to minimise harmful substance levels without any compromise to efficiency or your comfort. You can rely on Viessmann boilers for their increased levels of operational reliability, longer service life and easier operation, along with reduced fuel bills and maintenance costs.



The Vitogas range of gas-fired boilers from 11 to 65 kW

### wall-mounted boilers





Space-saving gas-fired wall-mounted boilers continue to be popular. They can be installed almost anywhere - in attics, kitchens, or hallways, making them equally suitable for system updates or new builds.

Combi (combination) boilers, which provide both heating and hot water, offer a compact solution for small houses and apartments.

#### Vitopend, Vitodens and Vitoplus wallmounted boilers to meet every need

The Viessmann range of wall-mounted devices can provide the ideal solution for every need and every budget. From our low-budget Vitopend 100 gas-fired wall mounted boilers through to Vitodens 100, 200 and 300 gas-fired condensing boilers and the Vitoplus 300 oil-fired condensing boiler.

Hot water is supplied either via a built-in heat exchanger or using an external hot water cylinder, for larger volume hot water requirements.

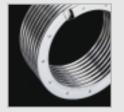
The Vitodens 100 is a particularly costeffective gas-fired condensing boiler with a high-performance aluminium/silicone heat exchanger.

The Vitodens 200 and Vitoplus 300 are fitted with the Inox-Radial heat exchange surface made from stainless steel and maximise energy utilisation in minimum space for oil and gas.

The Vitodens 300 has Inox-Crossal heat exchange surfaces made from stainless steel, to ensure long service life and high levels of operational reliability.



Vitodens 200 with Inox-Radial heat exchange surface made from stainless steel for maximum energy utilisation in minimum space



## for every budget



#### Easy to install and maintain

Viessmann gas-fired wall-mounted boilers can be installed easily and quickly both in new builds and in system updates.

The Vitotec range of wall-mounted products is based on Viessmann platform-type modular technology.

This means quick and easy installation.

Maintenance is made easy, with all
components accessed from the front
of the unit. As clearance to the sides is not
required, this means that Viessmann wallmounted boilers can also be installed in
corners and recesses.



The Vitoplus 300 oil-fired wall-mounted condensing boiler



Modular technology simplifies maintenance and service

### hot water on tap



Hot water at a constant temperature straight from the tap is something we all take for granted. Now we have the opportunity to ensure that our hot water is supplied in a cost-effective and eco-friendly way.

## Hot water can be generated from many sources

Water can be heated in numerous ways: centrally or independently, with one or two coils, using gas, oil or solar power. The ideal system for domestic hot water continues to be a combined boiler and hot water cylinder unit which ensures high draw-off rates, low standby losses and high efficiency.

### What factors do you need to take into account?

Depending on lifestyle, the average consumption level for hot water in a detached family house is 30 to 50 litres per person per day. This means that a boiler should have a rated output of at least 15 kW. This boiler output can reheat a hot water cylinder 10 - 25 minutes after a bath has been filled.





Viessmann Vitocell range of cylinders from 80 to 1000 litres for ideal heating conditions

## combining comfort & cost-effectiveness



#### The right cylinder capacity

A hot water cylinder must be able to heat up large volumes of hot water in relatively short periods of time. The optimum size of the hot water cylinder will depend primarily on the number of users and uses, but is also determined by the amount and type of heat suppliers. Viessmann Vitocell hot water cylinders can provide the ideal solution for every need and requirement - from 80 to 1000 litres.



The Vitocell-B 300 has been designed for use with solar collectors

#### Vitocell 300 hot water cylinders

Vitocell 300 hot water cylinders are made from corrosion-resistant stainless steel, which meets the most stringent hygiene requirements. It's no coincidence that stainless steel is used in kitchens, laboratories, hospitals and in the food industry.

#### Let the sun help

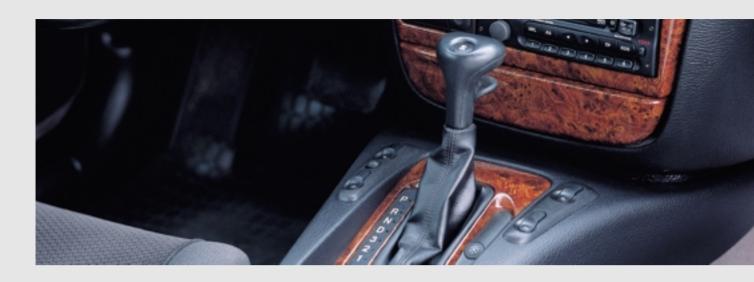
The sun is an excellent source of heat if cost-effectiveness and eco-friendliness are your priorities.

Solar energy costs nothing and is delivered to your door. During the summer months, solar energy can be used to generate almost all the hot water required. Throughout the year, a solar collector can provide approximately 50-60% of the energy required for domestic hot water.





### user-friendly controls



Cost-effective and eco-friendly heating combined with user-friendliness are essential requirements of the control systems used in today's heating systems.

The use of digital technology has enabled these requirements to be met in heating controls. Operation has been facilitated by many new or extended functions and above all by a fundamental improvement in operating methods.



The easy to use Vitotronic 300

#### Let Vitotronic do the work

The Vitotronic control units introduced by Viessmann with the Vitotec range are a tailor-made range of products, characterised by a variety of comfort-related features.

The transparent user interface has been designed to reflect the latest ergonomic advancements. Plain text display makes entering settings and modifications child's play. After all, an up-to-date control unit must be easy to understand and easy to use.

The control unit has been designed to help users wherever it can. If something can be done automatically, it will be - for example, switching between summer and winter time.



The Vitotronic 300: An intelligent approach to costeffective energy management

### the latest technology



#### Hot or cold at the touch of a button

Whether you are expecting guests or you are going on holiday - Viessmann
Vitotronic control units enable you to adapt the heating system to your requirements at the touch of a button. For example, the party setting overrides the reduced overnight temperature and keeps the house warm for your guests. The economy setting enables the room temperature to be reduced at the touch of a button if you are going to be away from home. One setting increases comfort, the other reduces costs.

Vitotrol remote control units make life even easier as they enable you to control your heating system from the comfort of your living room. With the Vitocom communication module, you can even switch the heating on or off when you are away from home, via a telephone or your mobile.

#### Fit for the future

With the introduction of ISDN and networked PC's, intelligent homes are becoming a reality. Viessmann Vitotronic control units are ready to be integrated into the applications of this new world. This includes data exchange for remote control via the Internet or laptop interfaces, which can be used to support installation engineers during maintenance and service. Vitotronic control units are setting new standards in the development, operation and maintenance of heating systems.



Vitotrol 300: Operate your system from the comfort of your armchair





Economy and party settings

## renewable energy



#### Heat from the air, water and earth

Renewable energies provide a modern alternative to or an extension of fossil fuels. Heat is delivered from the air, earth or groundwater to your door all year round free-of-charge!

Heat pumps enable this energy to be used in a particularly effective and eco-friendly way. Home ventilation systems also make a significant contribution to the protection of the environment, as they match air changes with demand and minimise ventilation heating demand through heat recovery.



The sun – inexhaustible, free energy

### the modern alternative



#### Energy direct from the sun

A major contributor to eco-friendly heating is the use of solar energy. Viessmann solar collectors offer

high levels of operational reliability, long service life and extremely high efficiency. In addition, the system components, which have been designed to complement one another perfectly, ensure the particularly effective use of the solar energy collected. This enables a significant reduction in the energy required from oil and gas, along with the associated cost savings. It also has two beneficial effects on the environment; valuable raw materials are saved and fewer harmful substances are produced.





#### Selection made easy

Before selecting an energy source, you should consult your Viessmann approved supplier and have your heat demand assessed. You can then select the most appropriate and long-term cost-effective method of heating for your needs on the basis of local conditions, your particular requirements, expected demand and current energy prices.

Various grants are available to assist homeowners installing renewable energy systems. For details of current schemes, please contact us on 01952 675000.

### solar energy systems



Solar energy is as attractive for a new build as it is for a refurbishment or renovation project. With a constant supply of renewable energy to your door all year round, the sun is one of the most ecofriendly sources of energy known to man. The use of solar energy protects the limited supply of fossil fuels and in turn reduces the amount of harmful substances emitted. Installing a solar system on your roof indicates awareness of the environment and increases the value of your house and saves reduces your long term energy costs.

#### What the sun can do for you

Solar energy not only benefits the environment, it also has a significant effect on your monthly or yearly heating costs. Between May and September, the sun can provide practically all the energy you need for your hot water supply. This corresponds to an annual average of 50 to 60%. All you need is a modern, well-matched solar system with high-efficiency collectors - like the one offered by Viessmann. Made from corrosion-resistant materials, Viessmann Vitosol collectors are known for their particularly high levels of operational reliability and long service life.



Solar collectors: The most eco-friendly way to heat domestic water and support heating systems

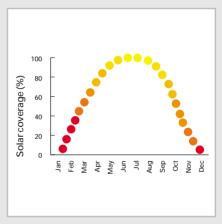


Energy from above - Viessmann solar collectors



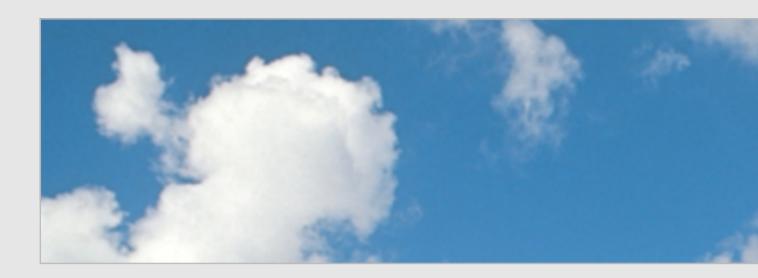
## What Viessmann solar systems can do for you

A Viessmann solar system is easy to assemble. Roof collectors and a hot water cylinder with two indirect coils can be installed quickly and it takes just a few simple steps to connect a pump station. All you need for problem-free installation is a system of perfectly matched components, such as those provided by Viessmann solar systems. You not only make a positive contribution to the environment but are also protected against its harsher aspects: materials such as 4-mm-thick special solar glass, copper and stainless steel ensure that your system is protected against snow, rain, hail and frost - even in the long term.



Solar systems can meet 50 to 60% of the annual energy requirement for domestic hot water

### recycling energy

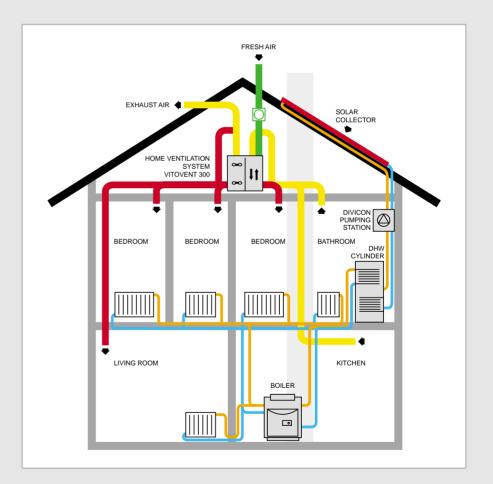


Constant, fresh, filtered and pre-heated air in all rooms, with the recovery of latent heat to keep your heating bills low. These are the key benefits of the Vitovent home ventilation system.

Vitovent creates a comfortable climate, with healthy ambient conditions.

Pollutants, odours and pollen are filtered from the outside air, before it passes through a heat exchanger. The everyday heat you generate in your kitchen and bathroom is then transferred to the fresh, incoming air. This system enables the recovery of 90% of latent heat, substantially lowering the ventilation heat required and minimising your heating costs.

The result is a highly efficient, low-energy home with all the benefits of clean, fresh air, without the pollutants or noise of the outdoors. With minimum humidity, you also have the reassurance that your home won't suffer from mould or other, related damage.



## in your own home









Even during the summer months you don't have to live without the benefits of Vitovent. A circuit by-passes the heat exchanger when it's not required, to channel cool, filtered air into your home.

The Vitovent 300 is a compact design, which can be wall mounted or free standing. It's quick and easy to install and is operated by remote control.

### heat pumps



The increasing demand for more cost-effective heating systems is presenting responsibly-minded builders and system updaters with new challenges. Viessmann Vitocal heat pumps are an important step on the way to the heating systems of tomorrow.

#### Using energy from the elements

Vitocal 300 heat pumps utilise heat from the earth, groundwater or outside air. Due to the equal temperatures in the earth and groundwater, the heat pump is to a large extent independent of the outside temperature and can meet your entire heat requirements, even on cold days.

## A uniform structure – Varied performance

All Vitocal heat pumps are designed for single-stage and two-stage operation and have a precisely graded bandwidth with outputs from 4.8 to 43 kW.

The core component of all Vitocal heat pumps is their innovative compressor technology: the hermetically sealed Compliant Scroll compressor.

The compressor operates extremely smoothly thanks to dual anti-vibration mountings.

#### Ease of operation

In addition to controlling functions, the digital controllers facilitate communication with the heat pump.

Dialogue boxes in plain text assist the user when selecting and deselecting functions.

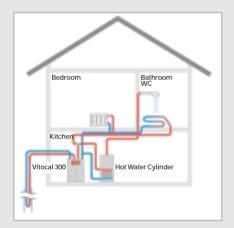




Using renewable energies with maximum efficiency – the Vitocal 300

## natural heat from the earth, ground or air





The Vitocal 300 brine-water heat pump with earth collector

#### Heat from the ground/groundwater

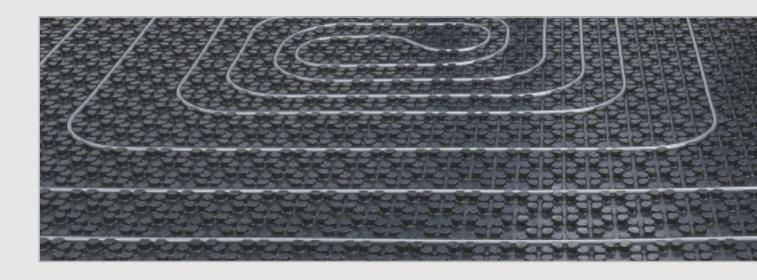
The Vitocal 300 brine-water heat pump draws heat from the earth using earth probes or earth collectors. In single-stage mode (without a second heat generator) it provides heating and domestic hot water all year round.

The Vitocal 300 water-water heat pump draws heat from groundwater at stable temperatures and is thus able to achieve constantly high outputs. It can meet the entire annual requirement for heat and hot water.

#### Heat from the air

The Vitocal 300 air-water heat pump converts the outside air heated by the sun into heat. A second heat generator can be connected in the event of very low outside temperatures combined with increased heat requirement.

## underfloor heating



If you're replacing or installing flooring in your home, you've got the perfect opportunity to add a little extra comfort. With underfloor heating you can enjoy warmth that's evenly spread throughout your home, without the highs and lows of conventional heating systems.

Underfloor heating is perfect for rooms with high ceilings. It means you can enjoy the heat as it rises, with much less wastage.

The Vitoset underfloor heating system has been designed to be highly flexible and quick to install. You also have the reassurance that the energy-saving Viessmann under floor heating system is hygienic, efficient and extremely reliable.

With a high degree of pre-fabrication, perfectly matched system components and system connection to existing heating systems, the Vitoset underfloor heating system is the solution for every application.







# efficient & dependable luxury





Underfloor heating is particularly appropriate with condensing boilers – maximising efficiency savings.

Underfloor systems can be mixed with radiator systems in a house to provide a perfect balance (eg. downstairs underfloor, upstairs radiators). The Vitoronic controls ensure the correct temperatures are delivered, whilst maximising comfort and efficiency.



The beauty of a Viessmann system is that all our heating components are perfectly matched. Boilers, valves and radiators are all designed to fit perfectly with the underfloor heating system, for an easy and efficient installation.



### radiators & towel rails



Stylish and efficient Vitoset radiators offer high performance from the latest technology.

Our radiators meet the highest standards and are perfectly matched to all other Viessmann products.

#### Elegant lines, high quality finish

Available in a range of sizes, these attractive radiators have a high quality finish to ensure long life.

Our range includes the sophisticated flat radiators and exclusive bathroom radiators.

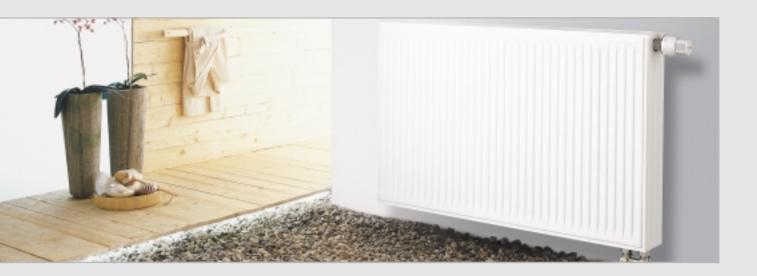
Designed to look stylish, even the thermostatic valve is a feature.

#### Integrated valves

Direct thermostatic integrated valves ensure there are no pipes to spoil the overall effect. In practical terms it means fast assembly at low cost.

Vitoset radiators with Viessmann precision thermostatic valves make any room a warm and welcoming place.

# stylish & efficient



#### Vitoset advantages at a glance:

- High quality white plastic coating
- Robust and practical welded casing with easy to remove cover
- Simple installation with integral, latest generation thermostatic valves
- Compatible connection dimensions, ideal for both new houses and renovations:
- Universal connection compatibility: integrated valve set, 5 x R1/2
- Double and triple unit design
- Flexible installation.

  Reversible connections, with no fixed brackets, means valves can be positioned on the left or right
- High heating performance with 25 mm rib width.

Vitoset radiators meet every standard and satisfy every heating requirement.





### viessmann system technology



Viessmann system technology is fit for the future, even for houses with reduced heating requirements (low energy homes). Viessmann acknowledged this requirement many years ago and already offers complete heating systems suitable for use in low energy homes. These comprise either low-temperature or condensing boilers, heat pumps, solar systems or home ventilation systems with heat recovery.

The distinguishing feature of every
Viessmann system is the perfectly matched
system technology, which ensures high
levels of modern living and heating comfort,
saves natural resources and provides high
levels of protection for the environment.

Today's modern or modernised homes are roomier and more comfortable, yet thanks to modern heating technology, they only use half as much energy as older houses. Compared to a 15-year-old boiler, a new boiler can save up to 30% in terms of energy. System-based heating plays an essential role in achieving this figure.

The boilers, burners, control units, hot water

cylinders and all other products in the Viessmann Vitotec range have been designed to complement each other perfectly. Vitotec's modular design ensures that all components are perfectly matched, can be installed quickly and have been commission-tested and preset in the factory. Heat losses are kept to an absolute minimum meaning that you'll soon reap the benefits of installing a Viessmann heating system.

You can find comprehensive information about our products on our website at www.viessmann.co.uk







"Art and heat" exhibition

For more information on a Viessmann heating system, or to locate a Viessmann approved installer in your area, please telephone:

01952 675000



All the products you need for comfort: Viessmann system technology



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Your local heating supplier

Subject to technical modifications