

Your guide to **JG Underfloor Heating**



Featuring

 **Speedfit®**

 **Aura®**

The smarter way to heat a home

Whether you are building a new home, renovating existing space or adding a new extension, JG Underfloor Heating has a range of solutions suitable for any project.

At JG Underfloor we like to keep it simple. We have put together this guide to help you understand our solutions. Here you will find useful information from key system components to pipe layouts, smart controls and how to request a free CAD drawing or place an order. Incorporating JG Speedfit and JG Aura technology, our underfloor heating systems are the ideal choice if you are looking for an energy efficient, stylish and easy to install solution.

With the largest network of technical sales engineers in the UK, our experts are on hand to provide you all the support you need – before, during and after install.

Contents

Reasons to install JG Underfloor Heating	4
What makes us different?	6
Working together	8
UFH explained	10
Key components	12
Choosing the right system	14
A solution for any project	16
Pipe layout	18
Smart control on the move	20
Technical support & design	22

Reasons to install JG Underfloor Heating

At JG Underfloor we make underfloor heating simple, offering high quality solutions underpinned by unrivalled technical support throughout the UK. Not only does JG Underfloor Heating create a better use of space, it is also more efficient and kinder to the environment.

Did you know?

Underfloor heating is cheaper to run than radiators as it uses less energy, saving money on energy bills. By only heating rooms that are in use, you will conserve energy and reduce wastage too.



More comfort

Like the sun, UFH uses radiant heat to warm objects and the fabric of the building to create a cosy, comfortable environment.



Greater heating control

Creates the perfect comfort zone with individual or multi-room temperature control – simple, standard and smart solutions.



Reduced heating bills

Designed to work with low water temperatures, JG Underfloor Heating can reduce energy consumption and heating costs by up to 20%.



Renewable heat source

Compatible with conventional and renewable heat sources that reduce environmental impact and cut fuel bills; including air and ground source heat pumps and solar panels.



More living space

By removing bulky and unsightly radiators it will free up wall space and give freedom for interior design.



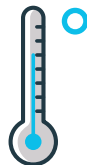
Healthy & safe living

Less moisture and lower air movement may help reduce dust allergens. Plus with no hot radiators and sharp edges it creates a safer space.



Less noise

Create a relaxing and tranquil ambience with no more creaking pipes or water flow noise. Virtually silent to run.



Universal control

Enable multi-zone heating throughout the property by combining JG Underfloor with JG Aura TRVs on existing or new radiator systems.

What makes us different?

JG Underfloor Heating is committed to developing energy efficient heating solutions. Bringing together the best and latest technologies, we provide design-lead solutions underpinned with unrivalled technical support.

With you every step of the way

We give you all the help and support you need – before, during and after installation. Whether your project is small, big or complex, we offer a free design, estimation and technical support service. With our experience, you can be assured that our experts will design the most energy efficient solution. Once you have placed your order we will produce easy to follow CAD drawings.

Save time and money with easy fit systems

By combining our push-fit technology with ultra flexible JG Layflat pipe, pipe fixing systems and pre-assembled manifolds, we offer a comprehensive range of underfloor heating systems that are quick and easy to install. Plus our 15mm pipe also reduces waste as any overcuts can be used on your next plumbing job.

JG Aura: a smarter way to control heat

At the heart of our heating control concept is our unique 4-in-1 thermostat for the remote regulation of underfloor heating, radiators and hot water. With individual and multi-room control, heating can be regulated from anywhere and at anytime using the free JG Aura app.

Universal heating control

We offer a wide range of underfloor heating solutions to suit any project type or size. Whether you are installing underfloor heating downstairs and radiators upstairs, or vice versa, you can combine JG Underfloor Heating with JG Aura Wireless TRVs to enable full zonal control of both radiators and underfloor heating.

Unrivalled technical support

Although we are now a global company, we are still a family run business that understands the importance of serving local customers. Within the UK plumbing and heating market, we boast one of the largest technical sales teams providing onsite assistance for first time installers and helpdesk support for more seasoned installers.

Guaranteed to perform

All of our components are manufactured under the ISO9001 Quality Management System. Our quality assurance team stringently test them at every stage of production. Whilst we are confident you will not need to use your guarantee, we do provide:



on all
Speedfit
fittings
and pipe



on JG Aura
heating
controls,
TRVs,
manifolds
and control
packs

Did you know?

A diverse range of industries rely on Speedfit Technology. So, whether you are driving a car, making a call, enjoying a pint at your local, or taking a shower, it is likely you have already come into contact with trusted Speedfit Technology.



Working together

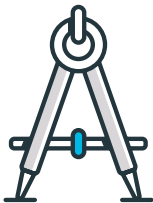
With a strong brand reputation and a high quality range of underfloor heating solutions, underpinned by an extensive support network; JG Underfloor is the perfect partner for your next project.

Whether you are a contractor, developer, architect or self-builder, you can be confident we have the expertise to design the most energy-efficient solution for any budget, floor construction or project.



Contractors

We know that a good reputation is crucial to your business. With JG Underfloor your reputation is in safe hands, as all of our products are manufactured to the highest standards using the latest technologies. We will be available throughout your project to provide you all the technical back up you could need – onsite or over the phone.



Architects & Developers

Free up space for design and add a touch of elegance to your next development with JG Underfloor. We understand detail is important, which is why our experts will work closely with you from discussing initial ideas through to planning, design and installation.



Homeowners & Self Builders

Add luxurious heat and style to your home with our affordable, energy-saving underfloor heating solutions. Using the latest push-fit technology, JG Underfloor Heating is fast and easy to install. When designing and installing your solution, our technical team will help you eliminate any guesswork and create the best solution for your home.



Having worked with JG Underfloor for more than 10 years, we already knew that we were working with a proactive company.

Russell Dawkins,
Technical Manager,
Crest Nicholson

The underfloor heating solution was easy to install and support from Speedfit was first class.

Richard Doyne, Owner,
Richard Doyne Plumbing & Heating

I wanted to create a warm and inviting space and that's exactly what I got with JG Underfloor.

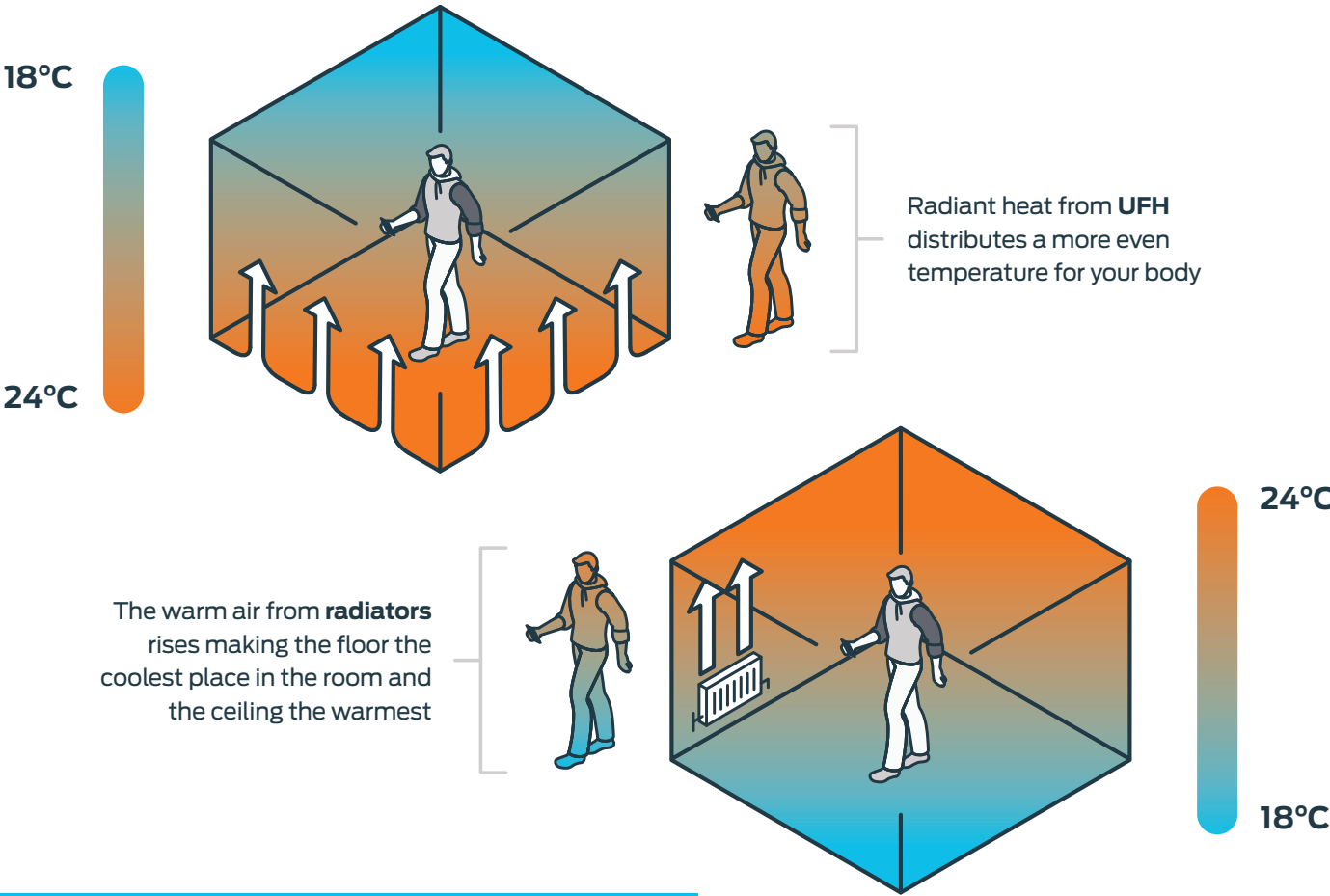
Mandy Stamp, Homeowner

Underfloor heating explained

JG Underfloor Heating uses mainly radiant heat, the most comfortable form of heating, giving an even distribution of warmth over the whole room.

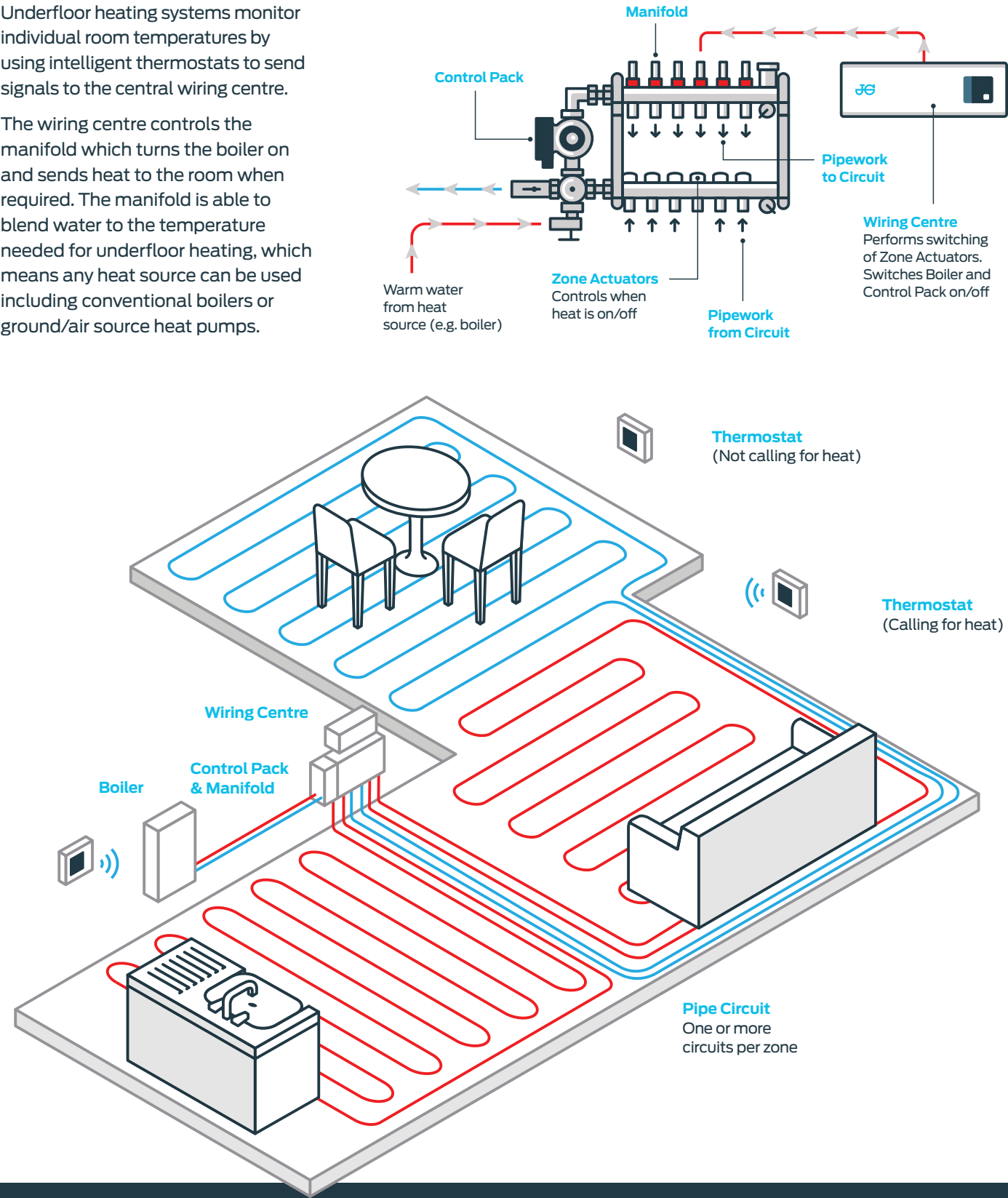
By contrast, radiators transfer energy using convection, heating the air above and around the radiator at a much higher temperature, causing the warm air to rise. This results in the floor being the coolest place in the room, with the mass of warm air at ceiling level.

Underfloor heating resolves this issue by ensuring there are no more cold spots and that heat is distributed evenly where it is needed most. A conventional radiator can be as hot as 75°C, whilst an underfloor heating system has a much lower and safer surface temperature between 25-27°C.



Underfloor heating systems monitor individual room temperatures by using intelligent thermostats to send signals to the central wiring centre.

The wiring centre controls the manifold which turns the boiler on and sends heat to the room when required. The manifold is able to blend water to the temperature needed for underfloor heating, which means any heat source can be used including conventional boilers or ground/air source heat pumps.



Hints & tips

Heat Output Tables and more technical information can be found at JGunderfloor.co.uk

Control Pack & Manifold
Warm water is pumped from the heat source to the control pack and mixed to approx 50°C. The control pack is fitted to the manifold that connects to the pipe circuits.

Thermostats
Individual room thermostats control when heating is required in each room, as well as the temperature required in each room.

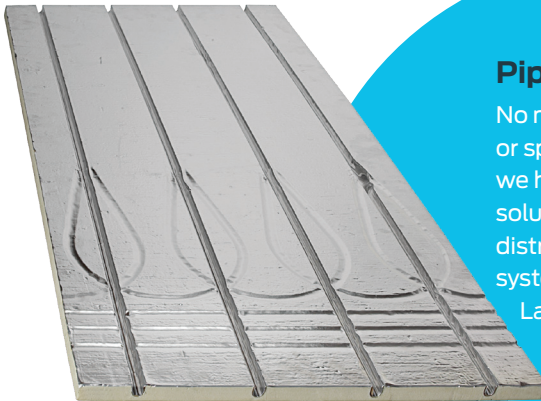
Wiring Centre
Performs central switching of zone actuators, control pack and boiler as signalled by the thermostats.

Pipe Circuit
When heat is switched on the entire floor area is warmed to between 25°C - 28°C, providing even distribution of heat at slightly higher than room temperature.

A full list of
system components
can be found at
JGunderfloor.co.uk
or in our trade
price list.

Key components

All JG Underfloor Heating systems are supplied to specification and consist of high quality and dependable components.



Pipe fixing

No matter what type of floor or space you are working with, we have a wide range of floor solutions offering great heat distribution. All of our pipe fixing systems use ultra flexible JG Layflat pipe, and connect to the manifold using our trusted Speedfit push-fit fittings; making installation quick and easy. See the following pages for a list of options.

Actuator valves

Controlled by a thermostat or programmer, Actuator valves operate to open or close an individual circuit on the manifold.



Barrier pipe

JG Layflat pipe is made from a soft material with little memory, making it ideal for laying underfloor heating pipe circuits. Made from Polybutylene, the 15mm pipe has an inner barrier to stop the ingress of oxygen molecules and is approved by British Gas for water pipe in vented and sealed central heating systems. Available in up to 300m coils.

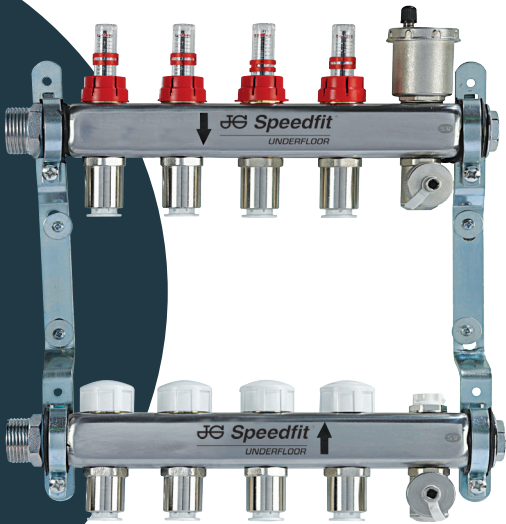


Heating control

JG Aura's unique 4-in-1 thermostat enables remote regulation of underfloor heating, radiators and hot water. We have a wide range of options from easy to use 230v dial thermostats, to wireless programmable devices that can be controlled by your smartphone or tablet via the JG Aura app.

Manifold

Manufactured to the highest standard, our manifolds are made from stainless steel and are available in a range of sizes from 2 to 12 zones. All manifolds come fitted with brackets and a vibration isolation mount. A unique feature is that pipe connections are all made with easy to use Speedfit push-fit fittings. Integrated within the manifold rail is a pre-assembled automatic air vent, filling valve and flow rate indicators for adjusting flow and isolating the pipe circuit.



Control pack

Used to mix and control water temperature, JG Underfloor's lightweight control pack is suitable for heating systems up to 14kW and connects directly to the manifold without the need of extra brackets or support. The nickel-plated control pack consists of a mixing valve, Grundfos A rated pump, return elbow, manifold adaptor and all necessary seals. Speedfit push-fit pipe connections can be made from the side or below the manifold. The pack also isolates all system components for maintenance purposes and can be mounted either side of the manifold to suit application.



Choosing the right system

Different underfloor heating systems vary in performance, so it is important to choose the right system for your project. To decide which pipe fixing system is best, you need to consider how the floor has been constructed as well as the desired final finish.

A system for every floor construction

Screed floors underfloor heating

Using thermal conductivity, heat is transferred from pipes encased in screed to the finished floor level and are typically used for ground floor applications in new builds. Screed systems are constructed over a slab or an oversite base with edge insulation fitted around the perimeter to allow for expansion and contraction, as well as the prevention of heat conduction from the floor to the wall.

Timber floors underfloor heating

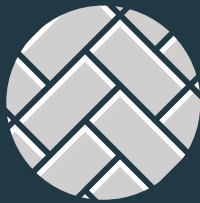
15mm JG Layflat pipe is installed into single or double grooved aluminium spreader plates that transmits heat evenly across the finished floor surface. For existing floor structures install between battens and for new floors, fix between existing joists. If the floor can be raised, floors can also be counter-battened to make installation even easier.

Existing floors underfloor heating

Laid directly on top of existing solid floors or under the floor between timber joists or over the floor between battens. There is a range of options for retrofits using low profile, high density, grooved foil-faced panels.

A system for most floor finishes

Some floor finishes offer better thermal conductivity than others and can therefore impact system performance.



Ceramic & stone

Most ceramic and stone floor finishes have a low thermal resistance. The hard surface quickly and effectively transfers heat making it an ideal partner for underfloor heating.



Timber wood

Due to good heat transfer properties timber floors work well with underfloor heating, especially engineered timber. Temperature should not exceed 27°C and advice should be sought from your supplier.



Vinyl & linoleum

Vinyl and linoleum flooring offers low resistance to heat due to its thin layer. Most types of vinyl and linoleum are suitable for use with underfloor heating but the temperature should not exceed 26°C.



Carpet

Carpets provide the highest heat resistance. Make sure the underlay is suitable for use with underfloor heating and the combined carpet and underlay tog value is less than 2.5. The higher the combined tog value the lower heat output.

For most applications underfloor heating systems have a surface temperature of approximately 25°C. However, some situations – where building heat loss is high – will require a surface temperature of 29°C. Bathroom floors can with a suitable covering go to 33°C. Ensure the floor is designed not to exceed the temperature of the floor covering manufacturer's recommendations. All of the JG Aura thermostats accept the fitting of a floor probe to prevent overheating, and the wiring centres have connections built in for an overheat thermostat as standard.

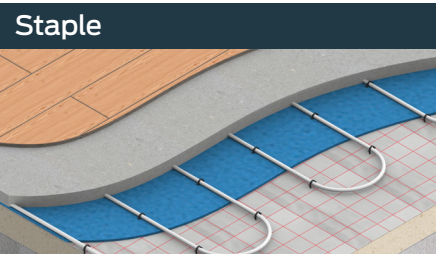


A solution for any project

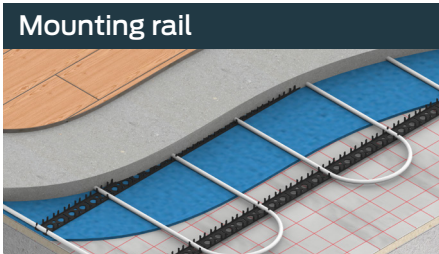
Our wide range of underfloor pipe fixing systems are designed to work with any type of floor construction.

Screed floor solutions

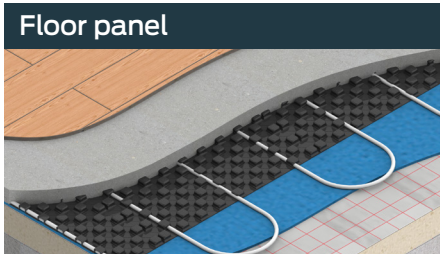
A range of cost-effective solutions for installing pipes under new or concrete/ screed floors. Ideal for new builds and extensions, especially ground floor level.



- Staples secure pipe to insulation
- Quick and easy to install
- Cost effective solution
- High heat output & response
- Regular and irregular shaped rooms



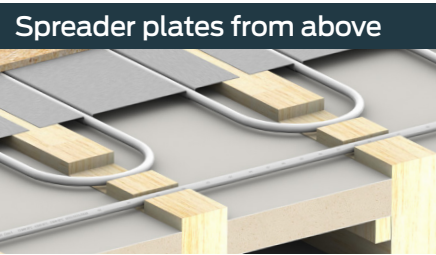
- Clip pipe onto the rail
- Ready-made spacing
- High heat output & response
- Good for larger regular shaped rooms
- Suitable when insulation is too thin for staples



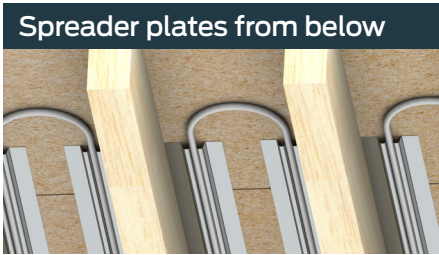
- Simple grid system for precise layout
- Ensuring minimum pipe bending radius
- High heat output & response
- Good for larger regular shaped rooms

Timber floor solutions

A range of solutions for installing between existing battens or new joists. Ideal for new builds, extensions and renovations, especially first floor level.



- Easy to install across timber joists or onto battens
- Medium heat output & response
- Low height build up
- Ideal for upper floor
- Good for rooms of all sizes
- Single or multi-room



- For use with pre-engineered joists
- Easy to install across timber joists or onto battens
- Media heat output & response
- Low height build up
- Ideal for upper floor
- Good for rooms of all sizes
- Single or multi-room

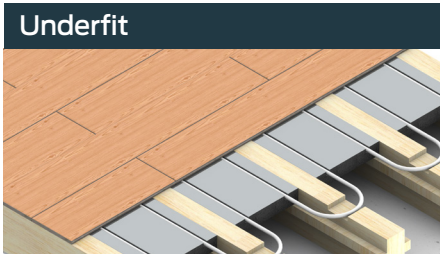


Hints & tips

Still not sure what system is best for your project? Remove any guesswork by contacting our technical support.

Existing floor solutions

A range of retrofit solutions for existing floors that provide no height build up and are suitable for ground or first floor installation.



- Easy to install grooved foil-faced panel
- Ideal for timber or suspended floors
- Medium to low heat output and response
- Low height build up
- Good for rooms of all sizes and shapes
- Single or multi-room



- Easy to install grooved foil-faced panel
- Lay over existing subfloor
- Suitable for lightweight floor coverings only
- Medium to low heat output response
- Low height build up
- Good for rooms of all sizes and shapes
- Single or multi-room

Room pack solutions

Room Pack is a cost-effective solution for single rooms up to 30m², including conservatories, bathrooms, kitchens and extensions.

Pre-assembled and pre-wired, the control unit is fast and simple to install as it plugs into any electrical socket or spur and is easily integrated to an existing central heating system.

Fitted with the latest A rated pump the control unit has integral ball valves for isolation from the primary heating system, an adjustable blending valve and a six metre head circulation pump. An anti-vibration mounting bracket ensures silent operation.

Using the screed as a heat diffuser, 15mm JG Layflat pipe is secured with clips to rigid insulation placed over the concrete subfloor.

There are three different types of Room Packs depending on the floor area and type of heating control required.

20m² pack

For rooms up to 20m² with wired heating control

30m² pack

For rooms up to 30m² with wired heating control

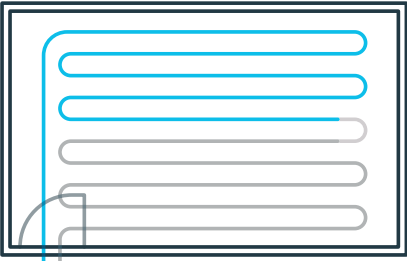
30m² Wireless pack

For rooms up to 30m² with wireless heating control. Can be upgraded to enable Internet connection

Pipe layout

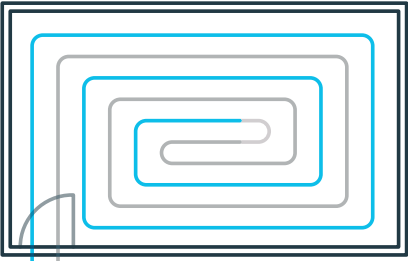
The manifold should be positioned in a central location to reduce the length of pipe runs required. There are several ways to lay pipe depending on pipe spacing, room layout and fixing method. If you have requested a CAD drawing this will show the specific pipe routes and patterns for the job. However, these examples show the main options available, although there are many possible combinations.

Serpentine pipe circuit



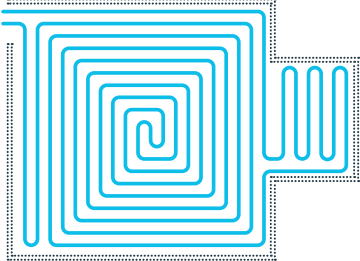
A simple up and down circuit pattern ideal for small areas or irregular shaped rooms such as kitchens and utility rooms.

Counterflow pipe circuit



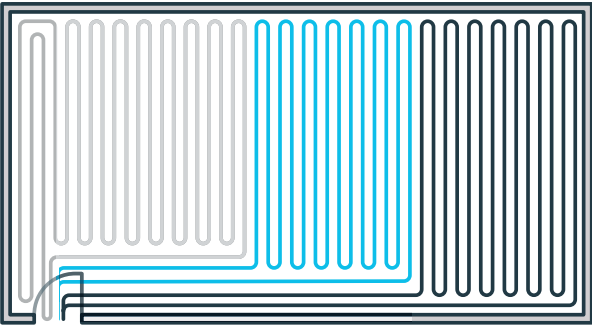
A spiral circuit pattern that achieves an even floor temperature with alternating flows and returns.

Combining pipe circuits

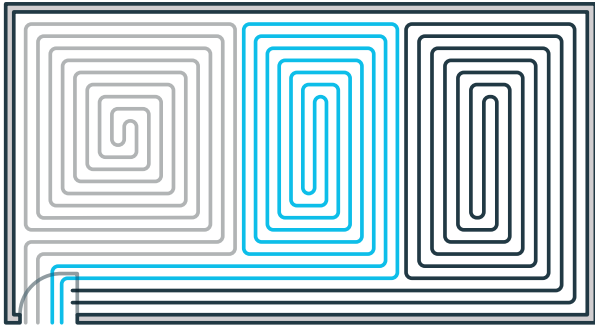


Serpentine and Counterflow pipe circuits can be combined in irregular shaped rooms.

Multiple pipe circuits



Serpentine



Counterflow

For more complex installations in rooms requiring multiple circuits, you can use both Counterflow and Serpentine layouts.



What pipe layout should you use?

System	Serpentine	Counterflow
Staple	Yes	Yes
Mounting Rail	Yes	
Floor Panel	Yes	Yes
Spreader Plates from above	Yes	
Spreader Plates from below	Yes	
Underfit	Yes	
Overfit	Yes	
Room Pack		Yes

Smart control on the move

With JG Aura you will never have to worry about returning home to a cold house or forgetting to turn off your heating when you leave. Plus, with our smart-generation thermostats you get the freedom to control your heating and hot water via smartphone or tablet, no matter where you are.

Add a touch of style to the way heating is regulated with our sleek and slender thermostats. Available in black or white, our contemporary heating controls will complement the look of any room. Whether you are looking for wired, wireless or networked controls, we have a range of options to suit your needs, which are quick and simple to set up and program.

Wireless system

Digital wire free or hard-wired thermostats

Create a heating control network using JG Aura Wireless Thermostats. Battery powered thermostats give you the flexibility of a wire-free installation and are ideal for retrofitting without the need to disturb walls. Alternatively, our 230v mains powered option require no batteries, and enhance the wireless communication signal as each thermostat acts as a repeater. You can also mix and match on the same network. When internet enabled, controls require no maintenance as they automatically update.

Wired system

Digital and dial thermostats

JG Aura 230v system consists of touch sensitive 4-in-1 controls, as well as easy to use Dial Thermostats. These can be used as individual thermostats or combined into groups for convenience.

Taking JG Aura to the next level

JG Aura Wireless TRV

Are you looking for underfloor heating downstairs and radiators upstairs, but need individual room control throughout? By combining JG Underfloor Heating with JG Aura Wireless TRVs, you can now achieve individual room control everywhere.



Hints & tips

Still not sure what system is best for your project? Remove any guesswork by contacting our technical support.



**Download
the free app**



The JG Aura App is compatible with
iOS, Android and Windows devices

A full list of
system components
can be found at
JGunderfloor.co.uk
or in our trade
price list.



Technical support & design

With JG Underfloor you can be confident you will get all the technical backup you could need – before, during and after install.



Support on your doorstep

With the largest network of technical sales engineers in the UK – who are qualified plumbers and UFH design engineers – our national team of experts provide free onsite technical support for first time installers*.



Handy installation videos & guides

From step-by-step installation videos to quick reference guides, you will find everything you need to make installation easy and get the most out of JG Underfloor Heating.

* Onsite support is not available for Room Pack installations. However, engineers and helpline advisors are always on hand to assist.



Technical helpline

Got an enquiry or need help with an issue? JG Underfloor Heating experts are only a phone call away.



Free design with detailed estimate

With our vast experience and expertise, you can be assured that we will design the most energy efficient-solution for your project. Boasting one of the fastest turnaround times in the industry, our team will provide you with a detailed estimate and free CAD design package.

Need help or support?

Our team of area sales managers and technical sales engineers are on hand to help you choose the best system for your project. Visit JGunderfloor.co.uk and use our handy locator tool to find your nearest contact.

Want to place an order?

JG Underfloor Heating is available in more plumbing & heating merchants and builders' merchants than anyone else, including leading DIY stores.

Placing an order is simple:

- Take your Estimated Materials List to your stockist of choice
- Negotiate and agree a discount on the trade list price quoted
- Place your order at your stockist

If you need advice on stockists or discounts please call your local area sales manager, as detailed on your quote.

Get a free CAD drawing

CAD drawings can be requested once you place your order with your local JG Underfloor area sales manager or technical sales engineers. To speak to our CAD centre call 01895 425365 or send your plans to:

JG Underfloor CAD Centre
Unit 2 First Floor
Greenways Business Park
Bellinger Close
Chippenham
SN15 1BN

For further information, visit
JGunderfloor.co.uk





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JGunderfloor.co.uk

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