Speedfit®

UNDERFLOOR

THE PUSH-FIT SOLUTION FOR UNDERFLOOR HEATING

Includes this NEW addition:

aura
underfloor heating controls

Ultimate Control at your fingertips

Underfloor Heating Systems

AUGUST 2015

JG Speedfit®
UNDERFLOOR

CONTENTS

UFH for Conservatories and Extensions

Single Room Control Units, Underfloor Heating Packs - everything you need to install a system of up to 30sqm. Now including JG Aura Thermostats.

Pages 24 and 25

NEW JG Aura Wireless Range

Slimline and attractive components with a Touch Screen Time Clock and a choice of room thermostats.

Pages 26 and 29

NEW JG Aura Wireless TRV

A simple energy saving solution for new build and retro fit projects.

Page 30

NEW JG Aura App

For use with JG Aura Wireless Range.

Page 31

NEW JG Aura 230v Range

Allowing simple installation of multi zone energy saving systems in new or retrofit projects.

Page 32

NEW JG Aura Thermostat Icon Appendix

Page 33

Speedfit Support, FAQ's and Techical Checklist

An introduction to Speedfit's technical support package.

Pages 34 to 37

John Guest®

Worldwide Connections

The John Guest Group has a long established reputation as a world leading manufacturer of push-fit fittings, tube and other fluid control products. A reputation built on producing consistently high quality products with an ongoing commitment to value engineering and product development.

Quality Manufacture

A commitment to quality is at the heart of the John Guest Philosophy

The strictest control is maintained by virtue of the fact that design and manufacture is carried out in modern purpose built manufacturing centres in west London and at Maidenhead in Berkshire.

Maintaining control over the whole process from initial tool design and tool making through to final assembly and testing ensuring that only products of the highest quality are produced.
The company believe it is this commitment to quality that has led to it receiving prestigious awards from many of the world's leading testing and approvals organisations.

John Guest is a preferred supplier to many international companies.

BS7291
No. KM39767

Speedfit PEX Fittings
and Barrier Pipe.
K24076, K24077 and K24078

The code of practice for the installation, commissioning & servicing of gas fires and wall heaters

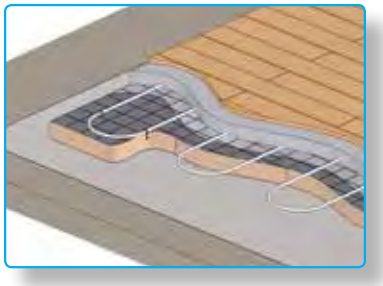
JG Speedfit®
UNDERFLOOR

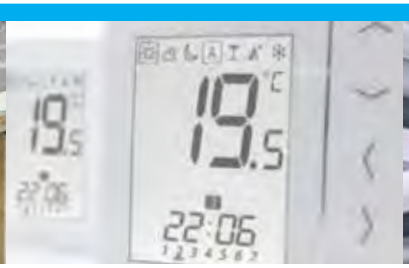
The Speedfit System for Underfloor Heating has been designed to be as quick and easy as possible to install with component parts manufactured under an ISO9001 Quality Management System.

The System has water pumped from a boiler or other heat source to a pump pack where it is mixed to approximately 50°C then distributed via a manifold to heating circuits made using Speedfit Barrier Pipe. The temperature and volume of water is altered to maintain the requirements of the system.

The pipe is laid in concrete or suspended just below the surface of timber flooring.

A wide range of electrical components means the system can have as much or as little control as required.





Design Service and Technical Support

CAD Design Service

Members of the Technical Support Team are available to help you get the best from your Speedfit Underfloor Heating System.

To obtain an estimate send us a plan of the area where underfloor heating is required, indicating the preferred location of the manifold and intended floor construction.

An estimate will be prepared and when approved and an order placed, the Speedfit CAD Design Service will provide a detailed drawing showing pipe layout, flow rates, suggested zone temperatures and advice on commissioning.

A member of our national team of Technical Support Engineers will be available to offer on-site support during the installation process.

The JG Speedfit Technical Advisory Service is available to assist and advise on all aspects of using the Speedfit System. The service is available between 8.00am and 5.00pm Monday to Friday.

Technical Help Desk:
01895 425333

Underfloor Heating

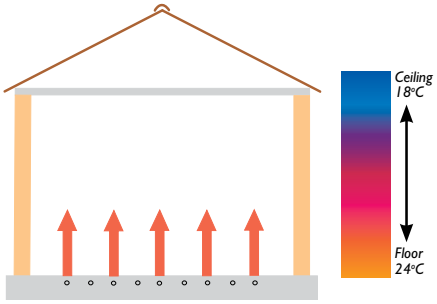
Underfloor heating provides the most comfortable, even warmth of any heating system. It is economical to run and virtually maintenance free.

The Speedfit System has water being pumped from a boiler to a pump pack, where it is mixed to approximately 50°C then distributed via a manifold to heating circuits made using Speedfit Barrier Pipe. The pipe is laid in concrete or suspended just below the surface of the floor.

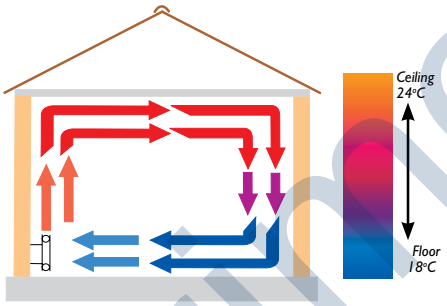
In concrete floors, the pipe is laid on insulation and then covered with a screed which can be laid almost any type of floor covering.

For timber floors, spreader plates are laid between the joists and the floor decking or on the underside of the floor. Speedfit Pipe is pushed into the grooves on the plates.

The Floor area is typically warmed to between 25°C and 28°C, providing an even distribution of heat at only slightly higher than room temperature. The system is controlled by one or more thermostats which control the manifold and boiler as required.



The heat is concentrated where it is most needed for comfort and efficiency.



By contrast, radiators transfer heat from a relatively small area at a much higher temperature than the space being heated.

The radiator system heats mainly by convection. This results in the floor being the coolest place in the room, with the mass of warm air at ceiling level.

The Whole Floor Acts as a Heat Source

FEATURES & BENEFITS

The Speedfit Underfloor Heating System offers many benefits to the consumer. These include:

Efficiency Savings
Underfloor Heating Systems are designed to operate at lower temperatures than radiator systems, making them especially suitable for condensing boilers and heat pump. This results in reduced energy consumption and lower heating costs for the building.

Installation
It is simple to install, requiring the minimum of installation effort and little maintenance.

Comfort
The system uses mainly radiant heat, the most comfortable form of heating, giving an even distribution of warmth over the whole room.

Space
The system is unobtrusive and space saving which means every square metre of floor and wall space can be utilised giving freedom of interior design.

Noise
Compared to radiator systems the system is virtually silent running.

Reduced numbers of hot surfaces and sharp edges minimise risk of burns or injury.

Control
Underfloor heating is easy to control and unlike conventional radiator systems, makes use of multi-zoning so each room benefits from individual time and temperature control resulting in a more flexible heating system with lower running costs.

Environment
Underfloor heating is suitable for use with the most energy efficient and environmentally friendly heating systems including condensing boilers, solar power and heat pumps.

FLOOR FINISHES AND COVERING

The Speedfit Underfloor Heating System is suitable for most floor finishes, including ceramic tiles, carpets, vinyl and laminate.

However, the thermal resistance of floor covering will have a marked effect on the performance of the heating system.

Advice on the use of floor coverings and their effect on the performance of a system is available from our Technical Help Desk.

For information on the effect of different floor finishes please refer to our website or UFH Technical Guide.

SET BACK - EXPLAINED

Compared to other forms of heating, underfloor heating can have a relatively slow response time, taking longer to heat up and cool down than radiator systems.

In order to reduce running costs and to have realistic heat up and cool down response times, rather than the system being switched off, the temperature setting is reduced by about 4°C. This is called set back because the system is turned down not off.

With the Speedfit System, set back can be achieved in two ways:

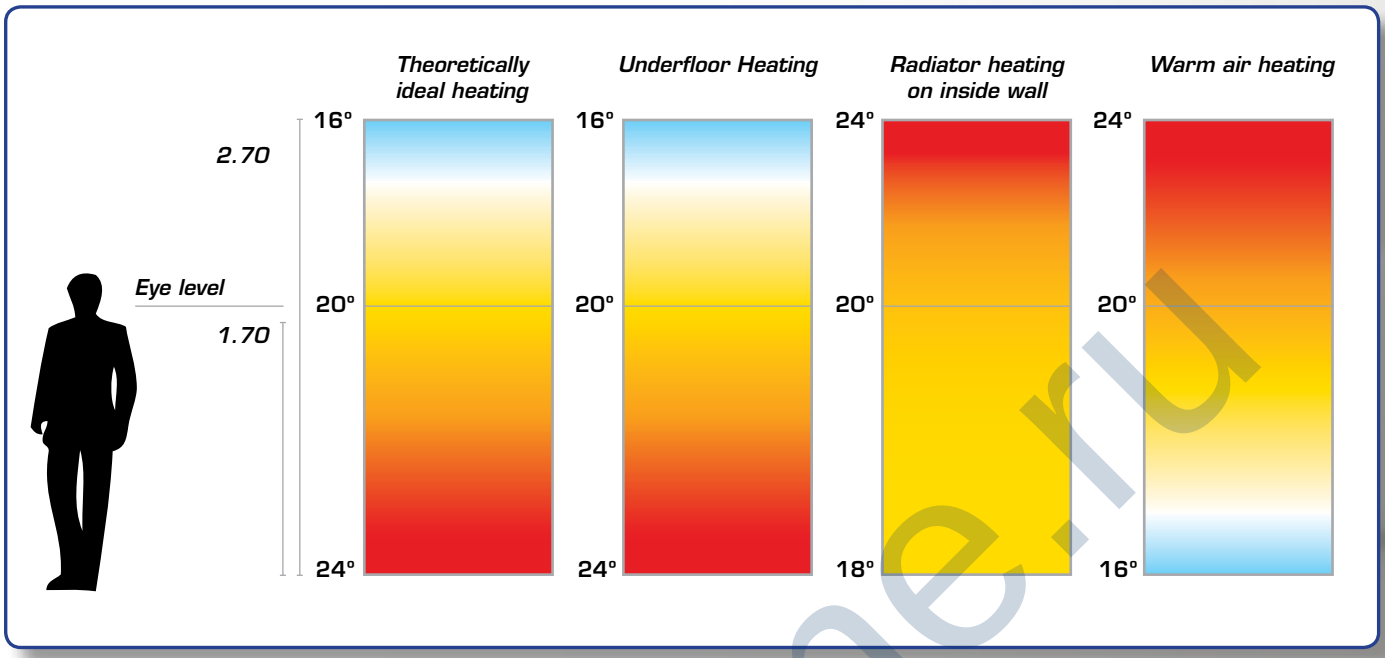
Individual Programming
Programmable Room Thermostats can be installed in each zone. They give individual time and temperature control, alternating between daytime and set back temperatures.

Centralised Programming
The Dial Set Back Room Thermostat has its own 'Daytime' and 'Set Back' time controlled centrally using a Touch Screen Time Clock.

Variety of Floor Finish Options

Speedfit®
UNDERFLOOR

Underfloor Heating



As the chart above shows, people are more comfortable when their feet are in a warm area and their head is slightly cooler.

A system using radiators will have colder air at the bottom of a room which places your feet in the wrong place for comfortable living. This is because cold air is more dense (heavy) and it is pulled downwards by gravity.

In contrast, Underfloor Heating heats the whole floor. This means that the warmest space is the area nearest the floor, which matches the preferred heat profile.

In practice, normal comfort can be achieved at a lower air temperature than with conventional radiators because underfloor heating systems heat mainly by radiated energy, just like the energy from the sun.

Radiant energy is emitted by the floor giving an even distribution of heat. This means no cold spots, hot ceilings or cold feet.

In its simplest form, Underfloor Heating is pipes in the floor with blended water passing through them. The Speedfit Underfloor Heating System receives water from a heat source such as a boiler or heatpump and high temperature water from a source like a conventional boiler is then blended to reduce the flow temperature. It is then distributed via a manifold to heating circuits made up of Speedfit Barrier Pipe. Low temperature water, such as from a Heat Pump, may not need to be blended down.

The pipe is then laid in concrete or suspended under timber flooring. Effectively, the floor is turned into a large, low surface temperature heat emitter which is economical to run and provides a similar level of comfort, at 20°C, to a convection system providing an air temperature of 21° - 22°C.

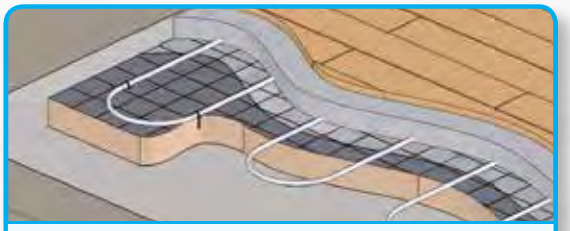
Heating times and comfort temperatures are controlled by individual thermostats to enable the user to maximise flexibility and reduce running costs.

JG Speedfit®
UNDERFLOOR

JG System Selector

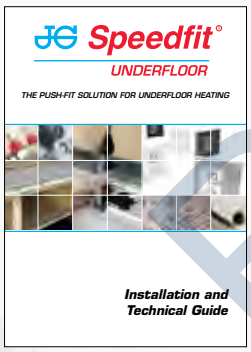
The JG Speedfit Underfloor Heating system offers a range of products to ensure that a wide variety of project types and sizes can be catered for.

This flow diagram helps portray the various choices that are available depending on whether a screeded or dry system is to be used. The 3 thermostat systems are sure to enable the right heating control method for most project requirements.



JG Speedfit UFH Systems

The Speedfit System for Underfloor Heating has been designed to be as quick and easy as possible to install with component parts manufactured under an ISO9001 Quality Management System. For more information please visit speedfitUFH.co.uk.



The JG Installation and Technical Guide is supplied with every Speedfit Underfloor System.

Alternatively scan the QR code below to obtain a Pdf version of the document.

Room under 30sqm / Extensions

The Speedfit Underfloor Heating Control Unit is the ideal way to provide heating to a conservatory or room extension up to 30sqm. The unit is pre-assembled and pre-wired to allow for a fast and simple installation. It can be plugged into any convenient electrical socket or spur. Designed to be easily integrated into an existing central heating system and fitted with the latest A rated pump.

Screeded Systems

The Screed should be laid as soon as possible after the pressure test and the system should be left under pressure during the screeding process. Cement, sand and fine concrete screeds should be designed and laid to the recommendations in BS 8204.

Dry Systems

These systems offer a variety of solutions for New Build or Retrofit projects. They can be used over an existing solid or wooden floor to give a low build installation as well as between solid or manufactured joists to provide a discreet UFH system for first floor applications.

Controls

An appropriate allocation of heating thermostats will be required on all underfloor heating systems. JG Speedfit offer a variety of systems options including 230v standard and wireless along with internet enabled wireless. Also includes wireless thermostatic radiator control.

Pages 24 and 25

20sqm Room Pack

JGUFHPACK20/3 Pack contains:

- 1 x 15mm x 150m Coil JG Layflat Pipe
- 1 x Single Room Control Unit with A rated Pump
- 1 x Programmable Room Thermostat
- 200 x 15mm Pipe Clips
- 2 x 15mm Pipe Inserts

Pages 24 and 25

30sqm Room Pack

JGUFHPACK30/3 Pack contains:

- 2 x 15mm x 100m Coil JG Layflat Pipe
- 1 x Single Room Control Unit with A rated Pump
- 1 x Programmable Room Thermostat
- 300 x 15mm Pipe Clips
- 8 x 15mm Pipe Inserts
- 2 x 15mm Speedfit Equal Tees
- 2 x 15mm Speedfit Swivel Elbows

Pages 24 and 25

Wireless 30sqm Room Pack

JGUFHWPACK30/3 Pack contains:

- 2 x 15mm x 100m Coil JG Layflat Pipe
- 1 x Single Room Control Unit with A rated Pump
- 1 x Wireless Programmable Room Thermostat
- 1 x Boiler Receiver
- 300 x 15mm Pipe Clips
- 8 x 15mm Pipe Inserts
- 2 x 15mm Speedfit Equal Tees
- 2 x 15mm Speedfit Swivel Elbows

Page 16

Staple System

This system is quick to install, cost effective, and can be easily adaptable to irregular room shapes. Floor coverings can be laid when the screed is fully cured.

Page 17

Clip Rail System

Using the screed as a heat diffuser, Speedfit Pipe is secured to 'Clip Rails' on top of rigid insulation which is placed over the concrete sub-floor.

Page 18

Floor Panel System

Speedfit Floor Panels make a simple grid to ensure quick and easy pipe laying and also provide a precise guide for the pipe, ensuring that minimum pipe bending radius is achieved.

Pages 19 and 20

Spreader Plates from Above

JG Speedfit's plate system is designed for use in timber suspended or battened floors. The floor system uses aluminium single or double spreader plates to transmit the heat evenly across the finished floor surface.

Pages 19 and 20

Spreader Plates from Below

JG Plate from below system is intended for use with modern pre engineered joists. As modern joists rely on the floor above being bonded and screwed to the joist's top surface.

Pages 21 to 23

Overfit System Underfit System

JG Overfit is a low profile System for new build or renovation projects. It's a lightweight insulated panel with compressive strength intended for lightweight floor coverings. The Underfit System is a grooved insulation panel for installing pipe over existing floor structures (between battens) or under the floor (between existing joists). It's a suitable choice for both new build and renovations.

Pages 28 to 30

Wireless Range

The stylish slim line thermostats throughout the JG Aura ranges offer touch sensitive control at your fingertips. Uniquely, the installer is presented with two options of powering the thermostat, using either batteries or simply mains powered.

Page 31

Free App Solutions

The JG Aura App gives you the freedom to control your underfloor heating and hot water no matter where you are via smart phone, tablet or desktop computer.

Page 32

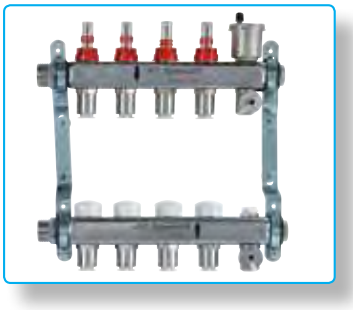
230v Range

The 230v range consists of Dial Thermostats and Programmable Room Thermostats

JG Speedfit®
UNDERFLOOR

System Components

MANIFOLDS - STAINLESS STEEL

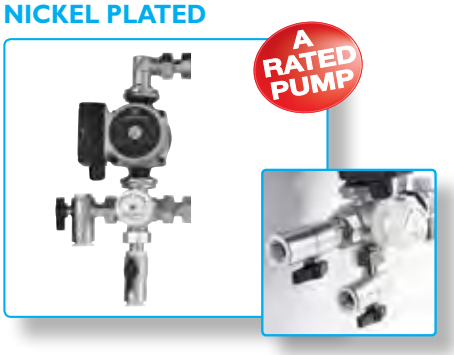


Part No.	Description
JGUFHMAN2/2	2 ZONE MANIFOLD
JGUFHMAN3/2	3 ZONE MANIFOLD
JGUFHMAN4/3	4 ZONE MANIFOLD
JGUFHMAN6/3	6 ZONE MANIFOLD
JGUFHMAN8/3	8 ZONE MANIFOLD
JGUFHMAN10/3	10 ZONE MANIFOLD
JGUFHMAN12/3	12 ZONE MANIFOLD

JG Speedfit Manifolds are manufactured from stainless steel to the highest standards.

A unique feature is that connections to the heating pipes are Speedfit Push-fit, offering much reduced installation time. All manifolds are pre-fitted with brackets, vibration isolation mounts, and an automatic air vent. Flow rate indicators include the means to adjust flow rate and isolate circuit.

CONTROL PACK - NICKEL PLATED



Part No.	Description
JGCONTROL/4	CONTROL PACK

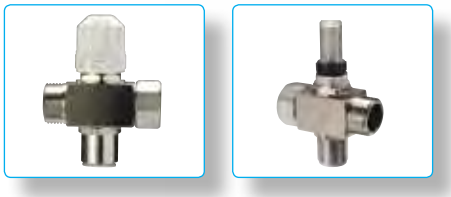
A compact, modular control pack for underfloor heating systems up to 14kW. Designed to be lightweight in order to connect directly to Speedfit manifolds without the need for extra brackets or support. The nickel plated material matches the stainless JG Speedfit Manifold.

Pack consists of a mixing valve, circulating pump, return elbow, manifold adaptor and all necessary seals.

As well as 1 straight and 1 bent 22mm isolating valve enabling pipework to be connected from the side or below as well as isolating all components and manifold for maintenance.

Can be assembled on the left or right of the manifold to suit application.

MANIFOLD EXTENSION KIT - NICKEL PLATED



Part No.	Description
JGUFHMANEXT/2	MANIFOLD EXTENSION KIT

Nickel Plated and allows a manifold to be extended by one or more zones.

MANIFOLD ELBOW CONNECTOR - NICKEL PLATED

Part No.	Description
JGUFHMANELB/2	MANIFOLD ELBOW CONNECTORS

Nickel Plated and enables a pump pack and manifold to be installed at 90°C to each other.

Underfloor Heating Spare Parts

Spare parts listed below in the left hand column relate to manifolds launched on April 1st 2014 which can be identified with the red flow gauges. Items listed on the right refer to previously available manifolds.

Spare parts for new manifolds launched April 2014

Product Description	Part No.
MANIFOLD FLOW METER	MKIT01
MANIFOLD CIRCUIT ISOLATING VALVE	MKIT02
DECORATORS CAP RETURN MANIFOLD	MKIT03
DRAIN VALVE	MKIT04
AUTO AIR VENT	MKIT05
MANUAL AIR VENT	MKIT06
1 PORT MANIFOLD EXTENSION KIT	MEKIT01
22MM ANGLE BALL VALVE	MVKIT01
22MM STRAIGHT BALL VALVE	MVKIT02
SERVICE KIT FOR JGCONTROL/4	MVKIT03
6 M 'A' RATED GRUNDFOS PUMP	PUMP-GA

Spare parts for manifolds prior to April 2014

Product Description	Part No.
MANIFOLD BALL VALVE - RED	SPUFH7
MANIFOLD BALL VALVE - BLUE	SPUFH8
DRAIN/FILLING VALVE	SPUFH9
MANIFOLD FLOW METER	SPUFH10
MANIFOLD ISOLATING VALVE	SPUFH11
UFH AIR VENT	SPUFH13
PTFE WASHER	SPUFH14
SERVICE KIT - JGCONTROL2	SPUFH15
SERVICE KIT - JGROOMPACK	SPUFH16
CONNECTION BOX - STAT	SPUFH17

Pipe

Layflat Pipe

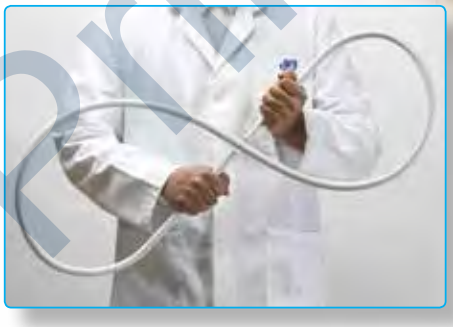
LAYS FLAT - STAYS FLAT - ULTRA FLEXIBLE

The polybutylene pipe is made from a soft material with little memory ensuring a very flexible system. It has an inner barrier to stop the ingress of atmosphere. British Gas accepted for water pipe in vented and sealed central heating systems.

JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

Part No.	Description	Size
15BPB-50C	BARRIER PIPE	15MM X 50M
15BPB-100C	BARRIER PIPE	15MM X 100M
15BPB-120C	BARRIER PIPE	15MM X 120M
15BPB-150C	BARRIER PIPE	15MM X 150M

Easy to Handle



Ultra Flexible

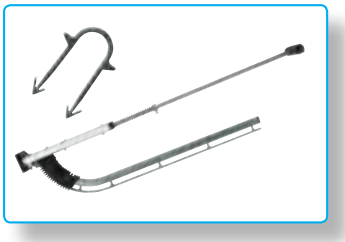
SPEEDFIT PEX BARRIER PIPE

Part No.	Description	Size
15BPEX-50C	BARRIER PIPE	15MM X 50M
15BPEX-100C	BARRIER PIPE	15MM X 100M
15BPEX-120C	BARRIER PIPE	15MM X 120M
15BPEX-150C	BARRIER PIPE	15MM X 150M

Speedfit®
UNDERFLOOR

Fixing Systems

PIPE STAPLES



Part No.	Description
JGUFHGUN	STAPLE GUN
JGUFHSTAPLE	PIPE STAPLES

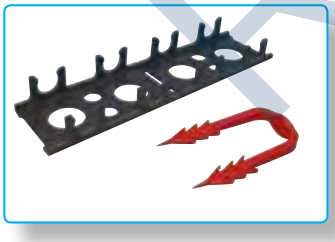
Pipe Staples are barbed to ensure a secure fixing to the insulation. Easy fixing is carried out by using a Staple Gun, securing the pipe to the insulation with an easy repeatable action. 1 box per 20m².

See UK Trade Price List for new reduced price for the Staple Gun.

CONDUIT ELBOW

Part No.	Description
JGUFHCONELB	CONDUIT ELBOW

MOUNTING RAIL



Part No.	Description
JGUFHRAIL	2 METRE LONG
JGUFHPIN	RAIL PINS FOR ABOVE

Mounting Rails offer a quick installation of 15mm pipe, supplied 2 metres long, the rails are pre scored every 100mm for easy cutting. The rail can be secured using red Rail Pins. 1 pack per 20m².

EDGE STRIP

Part No.	Description
JGUFHEDGE	25 METRE ROLL

Used with solid (screeded) floors, Edge Strip is used around the edge of a room to provide an expansion gap for the solid floor as it heats up and cools down.

FOIL TAPE

Part No.	Description
JGTAPE	METALLIC TAPE TO DETECT PLASTIC PIPE INSIDE WALLS

FLOOR CLIP

Part No.	Description
JGUFHCLIP	FLOOR CLIP
JGUFHTOOL	FOR EASY FIXING OF FLOOR CLIPS

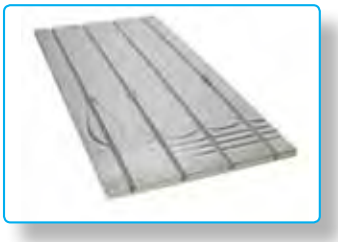
Floor Clips screw easily into the insulation to retain 15mm pipe, they are best installed using a Fixing Tool.

ACTUATOR VALVE

Part No.	Description
JGUFHA(240 v)/2	240 v CIRCUIT ACTUATOR VALVE

Controlled by a thermostat or programmer, Actuator Valves operate to open or close the flow of water to an individual circuit on the manifold.

OVERFIT® BOARD - OVER FLOOR



Part No.	Description	Size
JGUFHBOARD1	OVERFIT BOARD	1250MM X 600MM

Low profile system for new build or renovation projects. Grooved foil faced insulation panel for installing 15mm tubing over existing floor structures to facilitate the use of Underfloor Heating.

Recommended flow temperature 50 - 60°C
Maximum circuit length 100m
Typical cover per loop 13 - 15m²
Individual panel size 600 x 1250 x 25(mm)
Pipe spacing 150mm

Approx 7.5m² per box.

Heat output information available on page 37.

UNDERFIT® BOARD - JOISTS AND BATTENED FLOORS

Part No.	Description	Size
JGUFHBOARD2	UNDERFIT BOARD	1250MM x 350MM

Grooved foil faced insulation panel for installing 15mm tubing over existing floor structures (between battens) or under floor (between existing joints).

Recommended flow temperature 50 - 60°C
Maximum circuit length 100m
Typical cover per loop 15 - 20m²
Individual panel size 350 x 1200 x 50(mm)

Approx 4m² per box.

Heat output information available on page 37.

PRE-GROOVED INSULATION PANELS

Part No.	Description	Size
JGUFHBOARD3	PRE-GROOVED INSULATION PANEL	1250MM X 600MM

Intended to be used in conjunction with JGUFHBOARD1 for areas where there is a large number of pipes in one area such as a manifold or in corridors. Consideration must be given to the possibility of introducing excess heat in these areas.

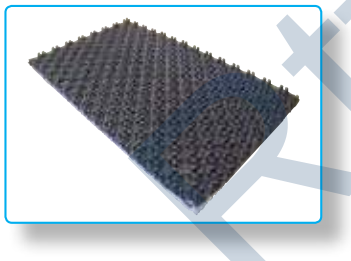
There are ten 15mm unfoiled grooves. This even number enables the board to be cut along its length to produce two 5 grooved boards or indeed to be cut or combined with other boards to produce any number of transition grooves.

Recommended flow temperature 50 - 60°C
Maximum circuit length 100m
Individual panel size 1250 x 600 x 25(mm)

Approx 3.75m² per box.

Heat output information available on page 37.

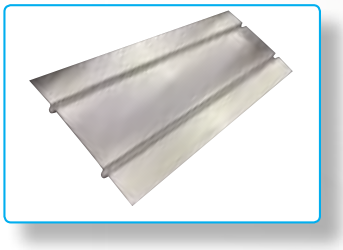
FLOOR PANELS

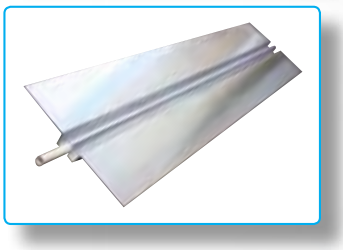


Part No.	Description	Size
JGUFHTILE	Floor Tile	1400MM X 800MM

Supplied in packs of 12, Speedfit Floor Tiles have an 11mm layer of insulation for support and additional thermal insulation.

SPREADER PLATES





Part No.	Description
JGUFHSP400	390MM X 1000MM
JGUFHSP250	390MM X 250MM
JGUFHSP165	165MM X 1000MM

Spreader Plates 390 x 1000mm and 390 x 250mm are laid across traditional joists and fixed in place using a hand stapler.

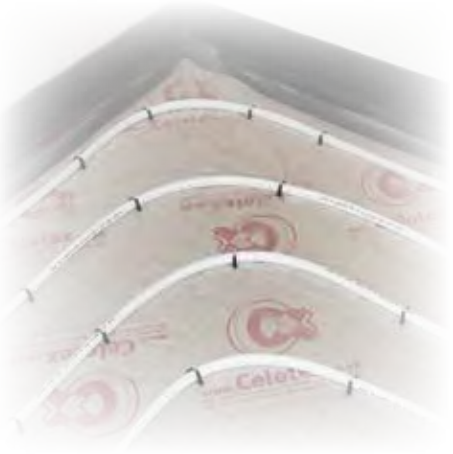
Spreader plates 165mm x 1000mm are designed to be used with composite joists and are fixed from below.

Speedfit Pipe is fixed in the grooves of the plates, insulation is placed in the void below the plates to minimise downward heatloss.

Above: approx 2 plates per 1m²
Below: approx 4 plates per 1m²

Heat output information available on page 37.

Speedfit®
UNDERFLOOR

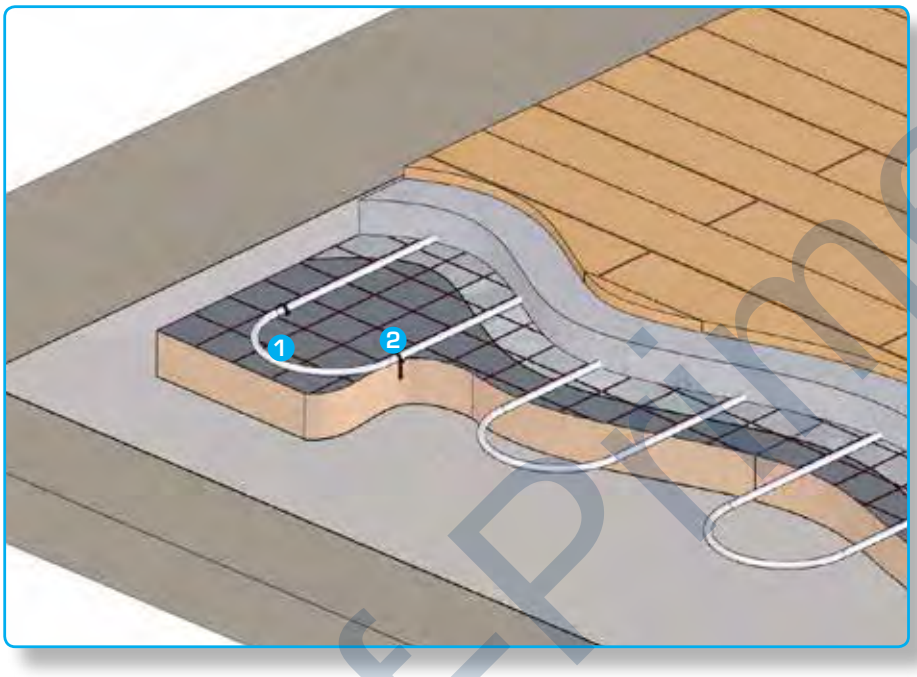


Pipe Installation - Solid Floors

THE UFH STAPLE SYSTEM

INSTALLING THE UFH STAPLE SYSTEM*

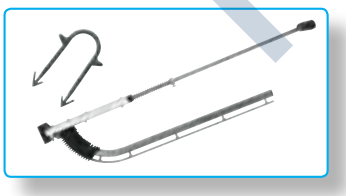
Using the screed as a heat diffuser, JG Speedfit pipe is secured with staples to rigid insulation placed over the concrete sub-floor. A variety of screeds can be used and are typically 65-75mm thick for sand-cement types or 40-50mm for liquid pumped screeds. The system is quick to install, cost effective, and can be easily adaptable to irregular room shapes. Floor coverings can be laid when the screed is fully cured.



1. 15mm JG Layflat Pipe
2. Pipe Staples

PRODUCTS ESSENTIAL FOR THIS INSTALLATION

PIPE STAPLES



Part No.	Description
JGUFHGUN	STAPLE GUN
JGUFHSTAPLE	PIPE STAPLES

EDGE STRIP

Part No.	Description
JGUFHEDGE	25 METRE ROLL

JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

Part No.	Description	Size
15BPB-50C	BARRIER PIPE	15MM X 50M
15BPB-100C	BARRIER PIPE	15MM X 100M
15BPB-120C	BARRIER PIPE	15MM X 120M
15BPB-150C	BARRIER PIPE	15MM X 150M

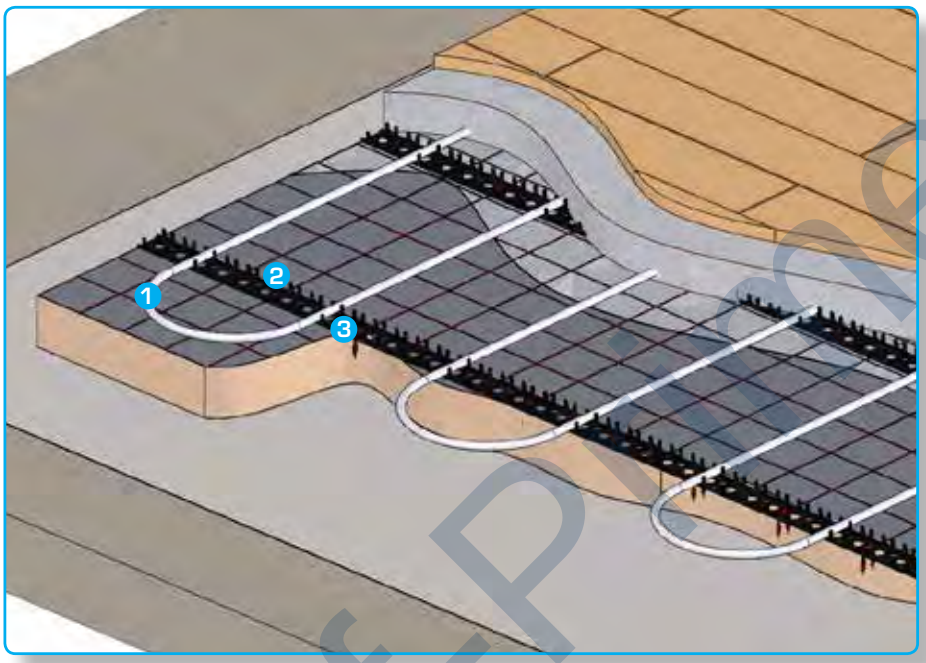
* For further information on installation methods refer to the JG UFH Installation and Technical Guide.

Pipe Installation - Solid Floors

THE MOUNTING RAIL

INSTALLING THE MOUNTING RAIL*

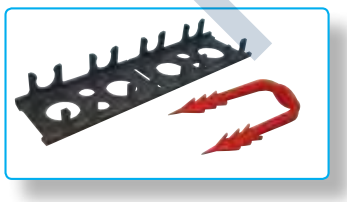
Using the screed as a heat diffuser, Speedfit Pipe is secured to 'Clip Rails' on top of rigid insulation which is placed over the concrete sub-floor. A variety of screeds can be used and are typically 65-75mm thick for sand-cement types or 40-50mm for liquid pumped screeds. The system provides ready made pipe spacing, can be fixed to insulation which is too thin for staples, and is especially suitable for large regular shaped areas. Floor coverings can be laid when the screed is fully cured.



1. 15mm JG Layflat Pipe
2. JG UFH Mounting Rail
3. Rail Pins

PRODUCTS ESSENTIAL FOR THIS INSTALLATION

MOUNTING RAIL



Part No.	Description
JGUFHRAIL	2 METRE LONG
JGUFHPIN	RAIL PINS FOR ABOVE

EDGE STRIP

Part No.	Description
JGUFHEDGE	25 METRE ROLL

JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

Part No.	Description	Size
15BPB-50C	BARRIER PIPE	15MM X 50M
15BPB-100C	BARRIER PIPE	15MM X 100M
15BPB-120C	BARRIER PIPE	15MM X 120M
15BPB-150C	BARRIER PIPE	15MM X 150M

* For further information on installation methods refer to the JG UFH Installation and Technical Guide.

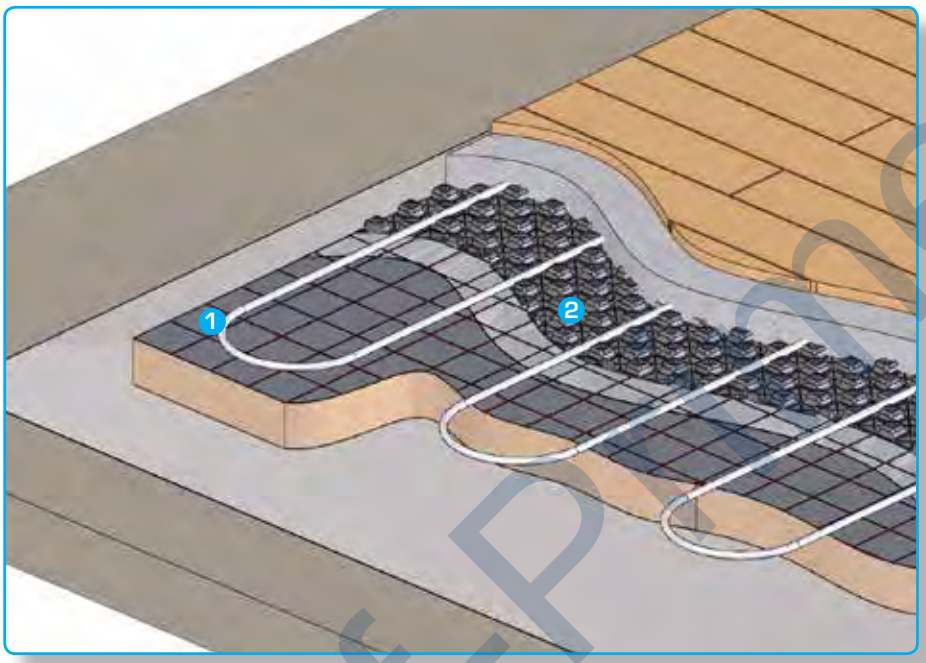
Speedfit®
UNDERFLOOR

Pipe Installation - Solid Floors

FLOOR PANEL SYSTEM

INSTALLING FLOOR PANEL SYSTEM*

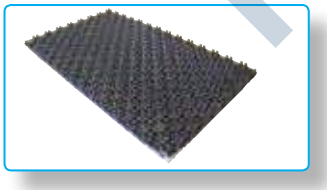
Speedfit Floor Panels make a simple grid to ensure quick and easy pipe laying and also provide a precise guide for the pipe, ensuring that minimum pipe bending radius is achieved. Suitable for use with cement screed (4:1 mix), pumped screed systems (anhydrite, etc.), fine or heavy concrete or polymer modified screeds.



1. 15mm JG Layflat Pipe
2. Floor Panel

PRODUCTS ESSENTIAL FOR THIS INSTALLATION

FLOOR PANELS



Part No.	Description	Size
JGUFHTILE	FLOOR TILE	1400MM X 800MM

EDGE STRIP

Part No.	Description
JGUFHEDGE	25 METRE ROLL

JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

Part No.	Description	Size
15BPB-50C	BARRIER PIPE	15MM X 50M
15BPB-100C	BARRIER PIPE	15MM X 100M
15BPB-120C	BARRIER PIPE	15MM X 120M
15BPB-150C	BARRIER PIPE	15MM X 150M

* For further information on installation methods refer to the JG UFH Installation and Technical Guide.

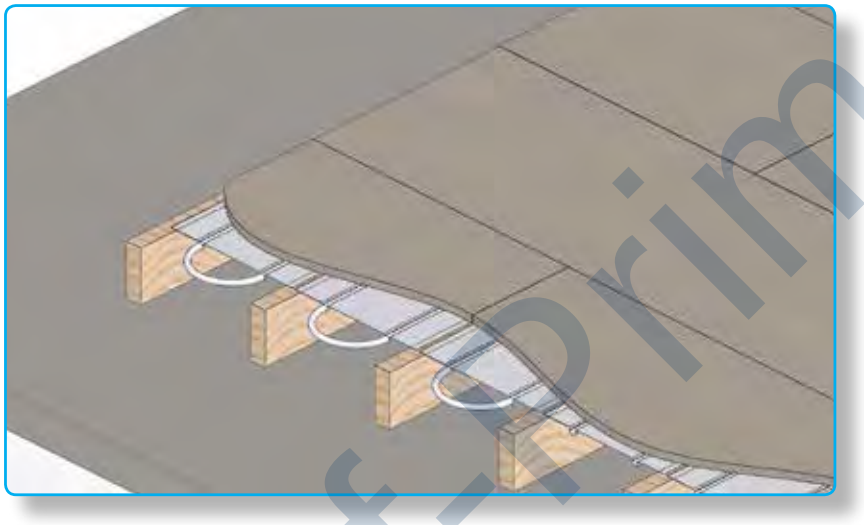
Pipe Installation - Suspended Floors

SUSPENDED TIMBER FLOORS

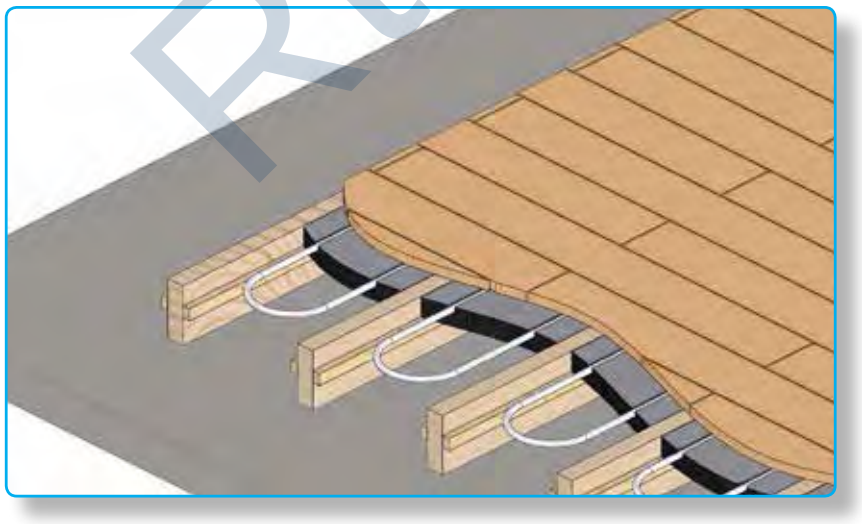
Underfloor Heating can also be used on timber and floating floors generally using heat spreader plates to transfer the heat from the pipes. There are many variations of these floor types and particular requirements should be discussed with our Technical Support Team.

Speedfit Pipe is installed into grooved aluminum plates which are first fixed from above in the case of traditional joists or from below when engineered I-Beam Joist systems are used. If the floor can be raised, floors can also be counter-battened to make installation even easier. Insulation is installed below the plates and it is important that the floor decking is in contact with the plate to maximise output.

SPREADER PLATES



UNDERFIT



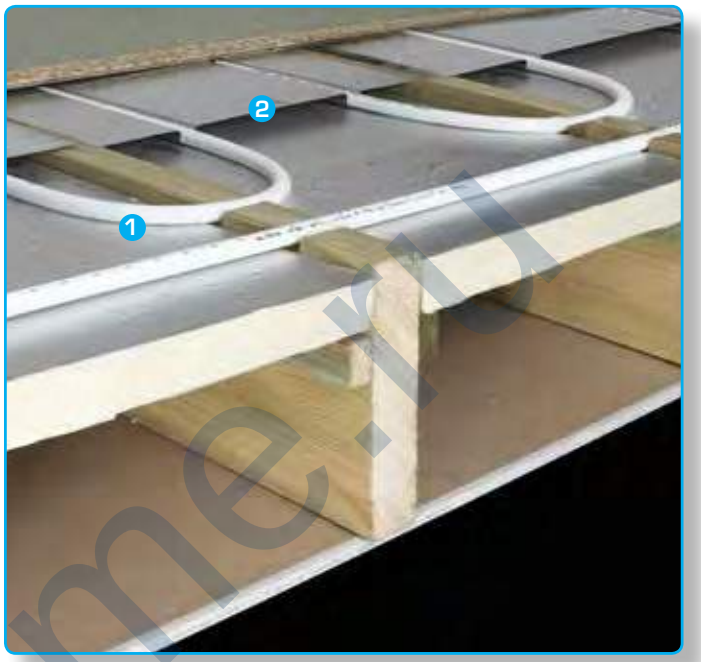
JG Speedfit®
UNDERFLOOR

Pipe Installation - Suspended Floors

INSTALLING JG UFH PLATE SYSTEM - FROM ABOVE*

JG Speedfit's plate system is designed for use in timber suspended or battened floors. The floor system uses aluminium single or double spreader plates to transmit the heat evenly across the finished floor surface.

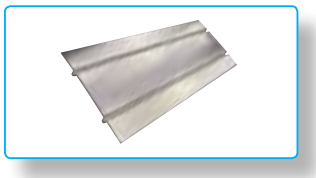
As illustrated, they can be used below a floor supported on insulation. Alternatively, where there will be a secondary layer of floor placed above a sheet sub floor, the plates can be sandwiched between the floor layers supported on battens. With a twin layer floor this second method is recommended as it removes a layer of resistence to heat transfer.



1 15mm JG Layflat Pipe 2 Spreader Plates - From Above

PRODUCTS ESSENTIAL FOR THIS INSTALLATION

SPREADER PLATES - FOR ABOVE



JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

INSTALLING JG UFH PLATE SYSTEM - FROM BELOW*

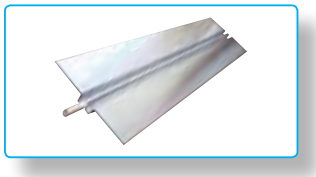
JG Plate from below system is intended for use with modern pre engineered joists.

As modern joists rely on the floor above being bonded and screwed to the joist's top surface. Because of this, the normal practice of fitting the plates onto the top of the joists is not available.

1 15mm JG Layflat Pipe 2 Spreader Plates - From Below

PRODUCTS ESSENTIAL FOR THIS INSTALLATION

SPREADER PLATES - FOR BELOW



JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

* For further information on installation methods refer to the JG UFH Installation and Technical Guide.

Pipe Installation - Suspended Floors

INSTALLING JG UNDERFIT® - JOISTS AND BATTENED FLOORS*

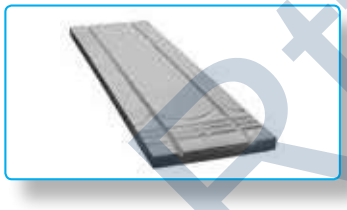
A grooved, foil faced insulation panel for installing 15mm Speedfit pipe over existing floor structures (between battens) or under the floor (between existing joists). The system is a suitable choice for both new build and renovation projects.

Similar to other JG Speedfit Underfloor Heating systems, a variety of floor coverings can be used.

1. 15mm JG Layflat Pipe
2. Underfit Board

PRODUCTS ESSENTIAL FOR THIS INSTALLATION

UNDERFIT® BOARD - JOISTS AND BATTENED FLOORS



JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

FOIL TAPE

DATA - 50mm UNDERFIT® BOARD

Dimensions	-	1200 x 350 x 50mm
Materials	-	Expanded Polystyrene BS EN 13163
Compressive Strength	-	100 (kPa) @ 10% compression
Conductivity	-	0.036 (W/mk)
Heat Output	-	Up to 60w/m^2
Recommended Flow Temperature	-	50 - 60°C
Pipe Centres	-	200mm
Maximum Circuit Length	-	100m
Typical Coverage per Loop	-	15 - 20m^2
Applications	-	New Build or renovation, single or multiple rooms

Floor Coverings	-	Tiles/slate,/ceramic etc. Carpet/Vinyl Laminate floors Natural wood

* For further information on installation methods refer to the JG UFH Installation and Technical Guide.

JG Speedfit®
UNDERFLOOR

Pipe Installation - Existing Floors

OVERFIT BOARDS (RETROFIT)

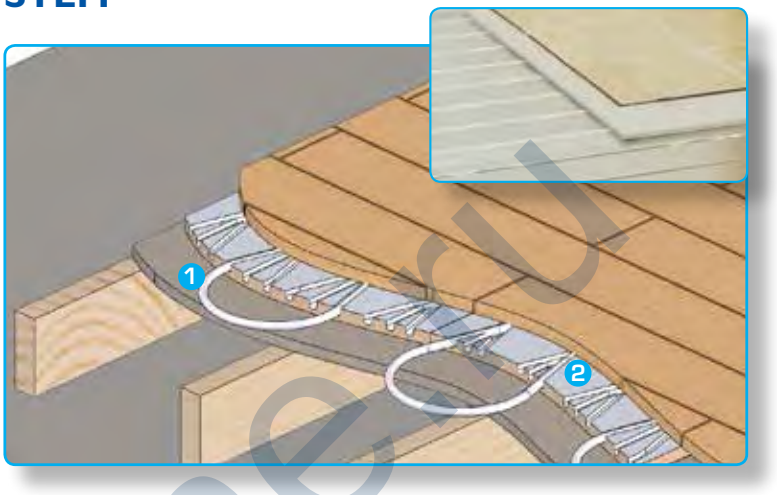
INSTALLING THE JG OVERFIT® SYSTEM*

JG Overfit® is a low profile System for new build or renovation projects.

It is a lightweight insulated panel with high compressive strength intended for use with lightweight floor coverings, e.g. laminate, engineered wood and carpet. Due to its ease of handling and cutting it is also suitable for larger areas and multiple room installations.

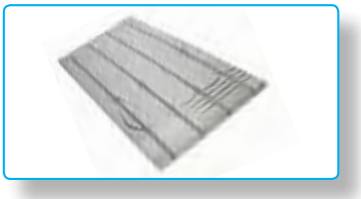
The installation uses 15mm pipe and 150mm centres for a highly responsive system.

1 15mm JG Layflat Pipe 2 Overfit Board



PRODUCTS ESSENTIAL FOR THIS INSTALLATION

OVERFIT® BOARD



Part No.	Description	Size
JGUFHBOARD1	OVERFIT BOARD	1250MM X 600MM

EDGE STRIP

Part No.	Description
JGUFHEDGE	25 METRE ROLL

JG LAYFLAT® POLYBUTYLENE BARRIER PIPE

Part No.	Description	Size
15BPB-50C	BARRIER PIPE	15MM X 50M
15BPB-100C	BARRIER PIPE	15MM X 100M
15BPB-120C	BARRIER PIPE	15MM X 120M
15BPB-150C	BARRIER PIPE	15MM X 150M

FOIL TAPE

Part No.	Description
JGTAPE	METALLIC TAPE TO DETECT PLASTIC PIPE INSIDE WALLS

DATA - 25mm OVERFIT® BOARD

Dimensions	- 1250 x 600 x 25mm
Materials	- Extruded Polystyrene-XPS2 (BS EN 13164)
Compressive Strength	- 250 (kPa) @ 10% compression
Conductivity	- 0.029 (W/mk)
Heat Output	- Up to 60w/m²
Recommended Flow Temperature	- 50 - 60°C
Pipe Centres	- 150mm
Maximum Circuit Length	- 100m
Typical Coverage per Loop	- 13 - 15m²
Applications	- New Build or renovation, single or multiple rooms

Floor Coverings

Tiles/slate/ceramic etc.	- use with Knauff Brio Board or eqivalent.
Carpet/vinyl	- use with suitable plywood covering.
Laminate floors	- use directly over insulation as floating floor.
Natural wood	- fix to battens between panels.

* For further information on installation methods refer to the JG UFH Installation and Technical Guide.

Underfloor Heating for Conservatories and Extensions

SINGLE ROOM CONTROL UNIT

Part No.	Description
JGROOMPACK/2	SINGLE ROOM CONTROL UNIT

The new Speedfit Underfloor Heating Control Unit is the ideal way to provide heating to a conservatory or room extension, up to 30 sq m.

The unit is pre-assembled and pre-wired to allow for a fast and simple installation. It can be plugged into any convenient electrical socket or spur.

The control unit has integral ball valves to allow 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.

Speedfit push in connections make for a fast connection to pipework.

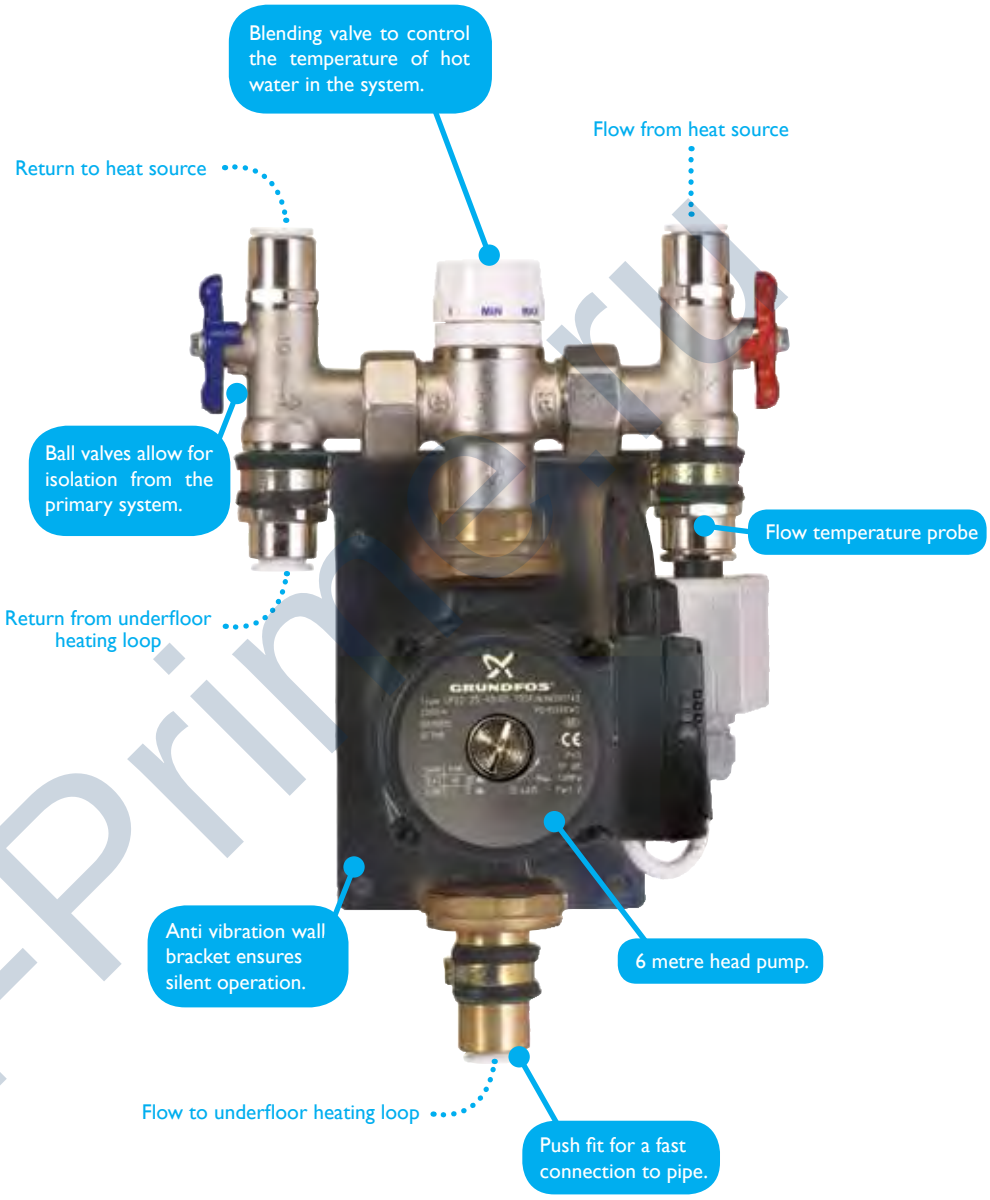
Speedfit recommend connection to the main central heating flow and return distribution system, using a dedicated motorised valve. It is also possible to connect to the nearest radiator supply pipe. If connected to an existing radiator circuit, the pump will be unable to operate independently, only able to obtain hot water when the radiator system is on.

A full and detailed installation guide is provided with each unit.

The Speedfit Underfloor Heating Control Unit is suitable for use when:

- The boiler serving the existing heating system has the capacity to take the extra output from 2KW to 3KW.
- The maximum area to be heated is 30 sq metres.

The Control Unit is designed to be used with Speedfit Barrier Pipe. The amount of pipe needed is determined not only by the size and shape of the room but by the resistance of the floor finish to heat transfer.



OPERATING PRINCIPLES

The Speedfit Control Unit will operate automatically when the central heating circuit is on and the water temperature flowing through it has reached 40°C. The pump will continue to run until the temperature of water flowing through it from the heating circuit falls to approximately 30°C.

The blending valve will maintain the temperature of the underfloor heating circuit by blending flow from the boiler with the cooler return flow from the underfloor heating circuit.

Underfloor Heating Packs

Now includes JG Aura Thermostat.

aura
underfloor heating controls

Speedfit Underfloor Heating Packs consist of:

A Control Unit which is pre assembled and pre wired, has integral ballvalves to allow for isolation from the primary system, an adjustable blending valve to control the temperature of the water and a high quality 6 metre head circulating pump. An anti-vibration mounting bracket ensures silent operation.

Programmable Room Thermostat to give individual time and temperature, control with a simple menu for easy adjustment.

Speedfit Barrier Pipe that is lightweight and flexible with an inner barrier to prevent the ingress of air. Manufactured and Kitemarked to BS7291 Class S.

INSTALLATION REQUIREMENTS

The Heating Packs are designed to be used in solid floor applications.

The floor insulation material will normally need to be 50mm, the pipe fixed to the insulation using floor clips.A sand and cement screed of 65mm to 75mm laid on top.

In areas of high heatloss such as conservatories, additional heating may be needed to achieve comfort levels.

A detailed Installation Guide is provided with each unit.

Please note Single Room Pack installations are not included as part of our Design and Technical Support Service.

For floor areas greater than 30 sq m, Speedfit offer an Underfloor Heating System that can cater for any size of project. Wireless controls are now available for even greater time savings during installation. Please contact the Technical Help Desk Tel 01895 425333.

Part No.
JGUFHPACK20/3

THE 20SQM PACK CONTAINS :-

1	Control Unit
1	JG Aura Programmable Room Thermostat
1	15mm x 150m Coils of Barrier Pipe
200	Pipe Clips
2	Pipe Inserts

Part No.
JGUFHPACK30/3

THE 30SQM PACK CONTAINS :-

1	Control Unit
1	JG Aura Programmable Room Thermostat
2	15mm x 100m Coils of Barrier Pipe
300	Pipe Clips
8	Pipe Inserts
2	15mm Speedfit Equal Tees
2	15mm Speedfit Stem Elbows

Part No.
JGUFHWPACK30/3

THE WIRELESS 30SQM PACK CONTAINS :-

1	Control Unit
1	JG Aura Wireless Programmable Room Thermostat
2	15mm x 100m Coils of Pipe
300	Pipe Clips
8	Pipe Inserts
2	15mm Speedfit Equal Tees
2	15mm Speedfit Stem Elbows
1	JG Aura Boiler Receiver
1	JG Aura Coordinator

Internet enabled with the addition of the JG Hub

JG Speedfit®
UNDERFLOOR

aura
underfloor heating controls

JG Aura is the new heating control concept from JG Speedfit, which allows for a more flexible and efficient remote regulation of your underfloor and central heating system as well as individual radiator control.

The JG Aura system provides you with the capability of controlling multiple zones. This enables the home owner to set heating time and temperature within each individual room resulting in considerable energy savings.

The JG Aura thermostat range consists of 230v mains powered controls including a wireless range that can be controlled by your smart phone, tablet and computer via the JG Aura app.

For greater convenience, be it a new build or retrofit project, thermostats can be battery powered or if preferable wireless thermostats can be mains power supplied.

The new JG Aura controls present beautiful styling, touch sensitive control whilst incorporating high level functionality ultimately defined by the unique and pioneering 4 in 1 JG Aura thermostat.

WHY JG AURA IS AHEAD OF THE REST

- 5 year guarantee
- Smart App control at your fingertips
- Stunning slimline design
- Stylish touch sensitive control
- Intuitive interface
- Wireless communication powered by batteries or mains

JG Speedfit®
UNDERFLOOR

JG Aura Wireless Range

Wireless thermostat with internet ready control

The unique JG Aura 4 in 1 wireless thermostat is designed to present wireless control of your underfloor heating system including unique wireless boiler communication when installing the JG Aura boiler receiver.

The JG Aura wireless thermostat is designed to work with the JG Aura app when incorporating the internet hub, presenting you ultimate control of time and temperature for your underfloor heating and hot water wherever you are in the world.

The stylish slim line thermostats offer touch sensitive control at your fingertips. Uniquely, the installer is presented with two options of powering the thermostat, using either batteries or simply mains powered.

At the heart of the range is the unique JG Aura thermostat that can operate in 4 easily configured modes.

- Programmable Room Thermostat
- Group Control Thermostat
- Group Thermostat
- Hot Water Timer

JG Aura thermostats can be used as an Individual Programmable Room Thermostat or combined into groups allowing convenient group control of many functions from 1 central place.

This enables JG Aura to control your underfloor heating, hot water and individual radiators with ultimate ease as all are combined effortlessly.

WIRELESS THERMOSTAT - 230V

Part No.	Description
JGSTATW2W	WIRELESS STAT (230V) - WHITE
JGSTATW2B	WIRELESS STAT (230V) - BLACK

The JG Aura 4 in 1 Thermostat gives combined control of UFH, individual radiators as well as wireless boiler switching allowing simple installation of multi zone energy saving systems in new or retrofit projects. Each thermostat can operate as a Programmable Room Thermostat, Group Control Thermostat, Group Thermostat, & Hot Water Timer.

WIRELESS HUB

Part No.	Description
JGHUB2	JG HUB 1-30

The Hub is used when upgrading any JG Aura Wireless system in order to use have the Internet control option. A plug and play hub is needed to act as an internet interface, this then allows full control of time and temperature in all zones from smartphone, computer or tablet.

WIRELESS THERMOSTAT - BATTERY

Part No.	Description
JGSTATW1W	WIRELESS STAT (BATTERY) - WHITE
JGSTATW1B	WIRELESS STAT (BATTERY) - BLACK

Battery powered thermostats give you the flexibility of a wirefree installation whereas mains powered thermostats remove the need to replace batteries and enhance the wireless signal. You are able to mix and match both wired and battery powered thermostats in the same network.

WIRELESS 8 ZONE WIRING CENTRE

Part No.	Description
JGWCW	WIRELESS 8 ZONE WIRING CENTRE

The Wireless Wiring Centre has been designed to be a complete wiring solution for UFH, Radiators and Hot Water control. Accommodates up to 8 thermostats and a Wireless Hot Water Timer for cable free installations.

JG HUB USER LICENCE

Part No.	Description
JGHUB1	JG HUB USER LICENCE

The JG Aura Hub can accommodate up to 10 internet enabled thermostats. If a project requires more thermostats the hub's capacity can be expanded upon by purchasing the JG Aura Licence which presents an additional capacity to control 10 more thermostats (max capacity 30).

WIRELESS COORDINATOR

Part No.	Description
JGCO	WIRELESS COORDINATOR

The Wireless Coordinator is essential to the successful communication of a wireless system and facilitates an automated pairing of the JG Aura products. The coordinator simply connects into the mains power plug provided.

WIRELESS BOILER RECEIVER

Part No.	Description
JGBR	BOILER RECEIVER

The Wireless Boiler Receiver communicates with the wireless thermostats via the wireless wiring centre. Installation is simplified as no wiring is required.

PROBE AND SENSOR

Part No.	Description
JGPRB	REMOTE PROBE
JGSB	SENSOR BOX

The Probe and Sensor are used to control temperature where moisture would be a problem i.e. in wet room or bathroom. It can also control floor temperature where overheating would cause damage.

JG Speedfit®
UNDERFLOOR

Wireless TRV NEW

Wireless Radiator Control. A simple energy saving solution for new build and retro fit projects.

The JG Aura Wireless TRV simply replaces the manual standard radiator valve head and in doing so, opens up new possibilities for energy saving.

Combining the TRV with JG Aura Wireless Thermostats, users can turn individual radiators on or off as well as remotely controlling your boiler at the same time. This allows for potentially significant energy savings as you only heat rooms that are in use and do not waste energy in unoccupied rooms.

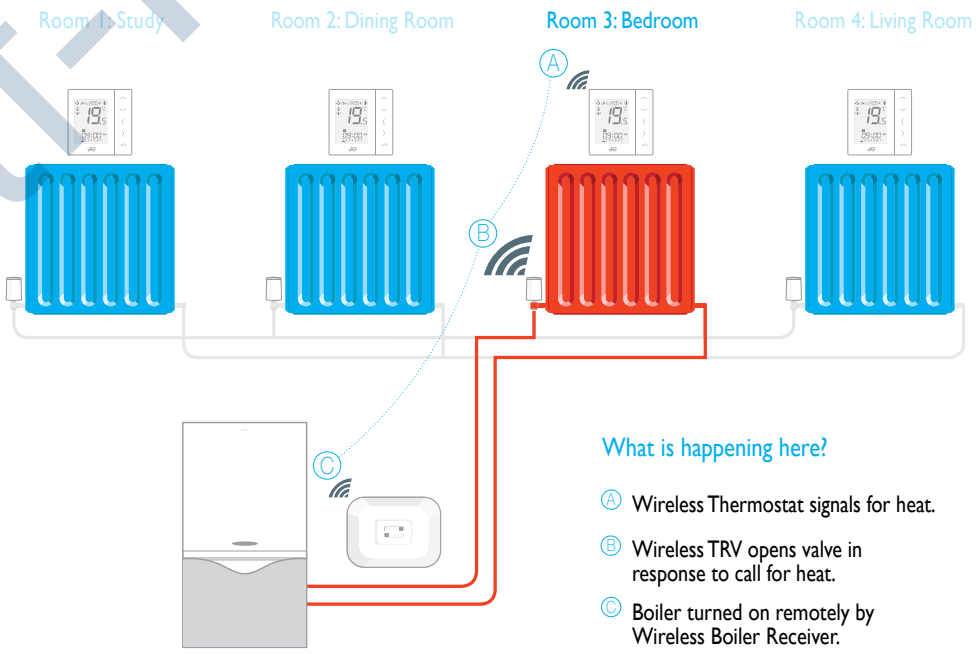
The JG Aura Wireless TRV can be combined with underfloor heating systems and is very simple to install. Every installation will require a JG Aura Wireless Controlling Thermostat, JG Aura Boiler Receiver and JG Aura Coordinator.

The Wireless TRV system can be internet enabled by installing a JG Aura Hub.

WIRELESS TRV

Part No.	Description
JGTRV	WIRELESS TRV

The Wireless TRV is used in conjunction with the Wireless Thermostat and Boiler Receiver. This unique product can be combined with UFH & Radiator control.



What is happening here?

Ⓐ Wireless Thermostat signals for heat.

Ⓑ Wireless TRV opens valve in response to call for heat.

Ⓒ Boiler turned on remotely by Wireless Boiler Receiver.

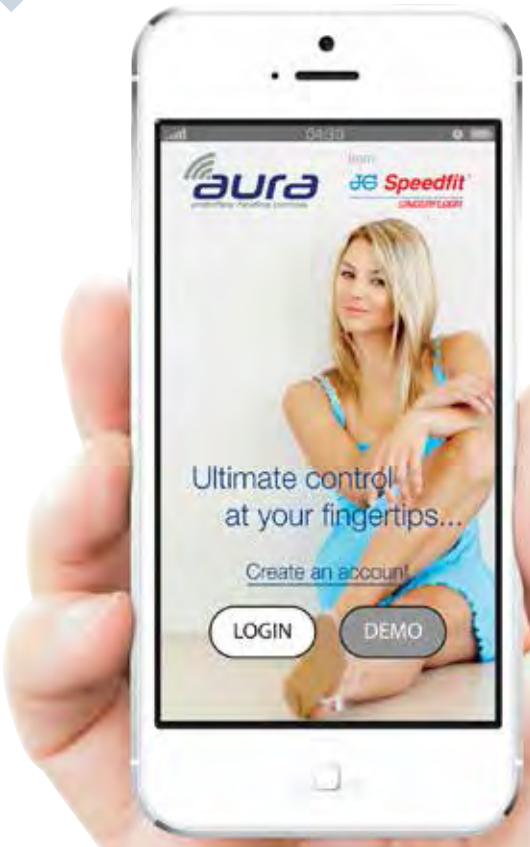
JG Aura App

For use with the JG Aura Wireless Range

The JG Aura App gives you the freedom to control your underfloor heating and hot water no matter where you are via smart phone, tablet or desktop computer.

The easy to use interface and intuitive nature of the JG Aura app, makes control of your heating system completely accessible from anywhere and at any time that suits you.

Don't worry if you have forgotten to turn off the heating when you leave for holiday as you can simply switch to Holiday Mode whilst in the departure lounge or on a sunbed.



Download the free App

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

iOS

Designed for Windows Mobile™

DISCLAIMER

Customers that choose to operate their heating remotely using JG Aura Range technology via their personal computer, tablet or smart phone device(s) will be entering into a contract with Salus Controls plc ("Salus"), which is a third party supplier of the software. John Guest Ltd and affiliates within the John Guest group of companies from time to time (the "John Guest Group") make no representations or warranties of any kind about the reliability or suitability of the software or applications provided by Salus. The John Guest Group disclaims liability (excluding liability for death and personal injury resulting from negligence) for any loss or damage caused by the software provided to customers by Salus. Any agreement entered into with Salus is therefore strictly at your own risk.

JG Speedfit®
UNDERFLOOR

JG Aura 230v Range

At the heart of the JG Aura 230v range is once again our unique 4 in 1 JG Aura thermostat, providing combined control of UFH and radiators allowing simple installation of multi zone energy saving systems in new or retrofit projects. The thermostat can operate as a Programmable Room Thermostat, Group Control Thermostat, Group Thermostat and a Hot Water Timer.

To enable the Group Control functionality it is essential that a 0.5mm 2 core data cable is utilised within the wiring process. The Group Control Thermostat can control a variation of both digital thermostats and dial thermostats from one central location. The optional data cable will not be required if the thermostats are to be used as individual Programmable Room Thermostats.

The Group Control Thermostat can control up to eight thermostats plus a Hot Water Timer.

230V THERMOSTAT

Part No.	Description
JGSTAT2W	230V THERMOSTAT & H/W - WHITE
JGSTAT2B	230V THERMOSTAT & H/W - BLACK

The 4 in 1 Thermostat gives combined control of UFH, individual radiators allowing simple installation of multi zone energy saving systems in new or retrofit projects. Each thermostat can operate as a Programmable Room Thermostat, Group Control Thermostat, Group Thermostat and a Hot Water Timer.

To enable the Group Control functionality, installation of the 0.5mm 2 core data cable is needed.

230V DIAL THERMOSTAT

Part No.	Description
JGSTAT1	230V DIAL THERMOSTAT

The Dial Thermostat can be set to 3 temperature variations (automatic, manual and frost) which can be selected using the slide switch located on thermostat. Dial thermostats can be part of a group or operate on their own, although they can leave or rejoin the group at the flick of a switch.

2 multi coloured LEDs give clear indication which mode the thermostat is working in.

230V 8 ZONE WIRING CENTRE

Part No.	Description
JGWC	230V 8 ZONE WIRING CENTRE

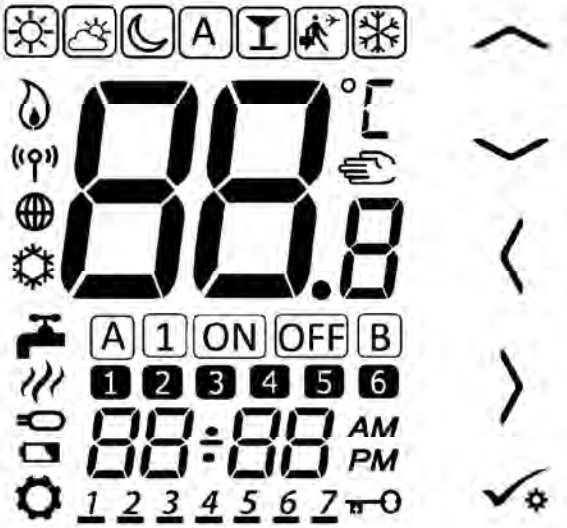
The Wired Wiring Centre has been designed to be a complete wiring solution for UFH, Radiators and Hot Water control. Accommodates up to 8 thermostats and a Hot Water Timer.

PROBE AND SENSOR

Part No.	Description
JGPRB	REMOTE PROBE
JGSB	SENSOR BOX

The Probe and Sensor are used to control temperature where moisture would be a problem i.e. in wet room or bathroom. It can also control floor temperature where overheating would cause damage.

JG Aura Thermostat
Icon Appendix



LCD ICONS	DESCRIPTION	FUNCTION
	Select On Box	Shows status
	High Temp	Shows thermostat is in high temp mode
	Medium Temp	Shows thermostat is in medium temp mode
	Reduced Temp	Shows thermostat is in reduced temp mode
A	Auto Mode	
	Party	Shows thermostat is in party mode
	Holiday	Holiday is active
	Frost	Frost is active
	Lock	
1 2 3 4 5 6 7	Day of week	Indicates day of week. 1 being Monday
88.8	Temperature	Indicates current temperature
88:88	Time	Indicates time in hours and minutes
AM PM	AM / PM	In 12hrs shows morning / evening
1 2 3 4 5 6	Program	Indicates current program
	Setting	Shows when user is in setting mode
	Battery Indicator	Indicates low battery
	Sensor	Sensor is connected
	Hot Water On	Hot Water is calling
	Hot Water mode	Thermostat is configured for hot water
	Cooling mode	Thermostat is configured for cooling
	Internet	Thermostat is connected to the internet
	RF Signal	RF Signal is being sent
	Heating ON	Heating is calling
	Override	Program has been temporarily overridden
°C	Centigrade	Temperature is shown in centigrade
A	Auto Mode	Hot Water is in AUTO
1	HW Once	Hot water is on once per day
ON	HW ON	Hot water is continuous ON
OFF	HW OFF	Hot water is continuous OFF
B	HW Boost	Hot water boost is activated

Speedfit®
UNDERFLOOR

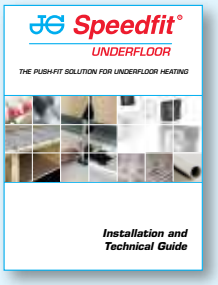
Speedfit Support

Speedfit Support's national team of technical engineers is available to help you get the best from your Speedfit System, be it assistance or advice.

Their service includes a free underfloor heating estimate, onsite installation advice, a technical helpline and a free CAD design service.

Technical Help Desk: 01895 425333
8am to 5pm Monday through Friday

Or email us at: info@johnguest.com



Scan here with a smartphone to obtain a pdf version of our UFH Technical Document.

Free Design Service

Onsite Installation Advice

Online Project Estimator

Technical Helpline

Online Info

Installation Advice

It is important to carefully consider the ideal installation method for your underfloor heating project. The pipe fixing technology offered by JG Speedfit Underfloor Heating will ensure that the right materials and methods are used for the job's requirements. Installations normally fall within three categories:

SOLID / SCREEDED FLOORS

The screed is an important and integral part of the UFH system, transferring energy from the pipes to the area to be heated. The response of this 'thermal mass' will depend on its depth and make up. The usual depth of screed is 65-75mm thick but it is possible depths can be reduced to assist in improving performance. It is suitable for use in either new build or existing properties.

TIMBER / FLOATING FLOORS

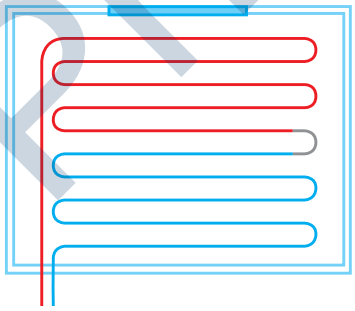
Often found in the upper floors of a property, a system is required where a solid floor installation is not suitable due to structural reasons.

OVER EXISTING FLOORS

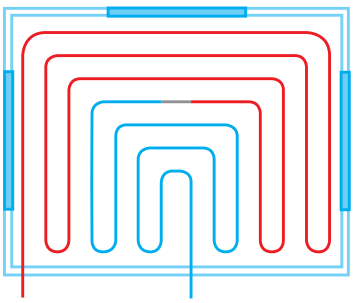
An Underfloor Heating system that is installed over existing flooring which is suitable for both new build and renovation projects. This means that current flooring does not require extensive alteration.

PIPE LAYOUT IN SOLID FLOOR INSTALLATIONS

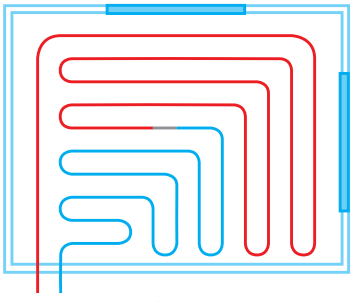
The shape of the room and the position of the outside walls and windows will determine the pattern of the pipe layout. The counterflow pattern is recommended although other options are shown opposite.



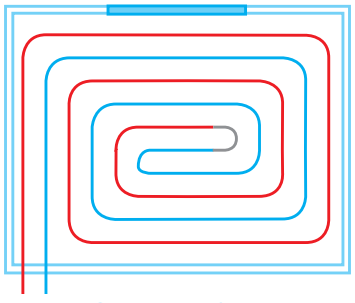
Single Serpentine



Triple Serpentine



Double Serpentine



Counterflow

Further information and advice is available on 01895 425333 or www.speedfitufh.co.uk

JG Speedfit®
UNDERFLOOR

FAQ's

1. Can I achieve energy saving?
Yes: because having independent control of the Time & Temperature of individual rooms, the user can decide what rooms will be heated and to what temperature. As well as this, each room has control of the boiler switching so energy savings of over 30% are a realistic possibility.

2. Where is the app available from?
The App will be available to download for Apple, Android and Windows based phones, tablets and PCs. Links will be provided for the relevant App store locations.

3. How can I change room temperature if I can't find my phone/tablet?
Phones and Tablets can be used for convenience but all thermostats have full manual control as standard.

4. What happens if I lose my internet connection?
The internet is used only for convenience. The system will still retain full manual control of all these functions until the internet connection returns.

5. Why use internet connectivity?
All the normal local control and functionality remain but with the ability to control the system remotely brings increased flexibility in our modern hectic lifestyles. Some users may also find system set up and some group functions more convenient to access from a tablet, phone or PC.

6. How can I connect to the internet?
Simply purchase the JG Aura wireless thermostats, JG Aura coordinator and JG Aura hub.

7. How does a thermostat master controller work?
The Group Control Thermostat can control up to 8 thermostats plus a hot water timer in a designated group. This also allows the user to centrally control Holiday, Frost, and Party functions as well. Any group member thermostat can leave or re-enter a group at the press of a button
.

8. Why create thermostat groups?
When a large number of thermostats are fitted into a property it may be inconvenient to programme every thermostat for temperature levels and the time the thermostat switches between these different temperature levels. The same goes for programming Holidays and Party mode etc.

9. How many stats will a wiring centre control?
A JG Aura wiring centre can control up to 8 thermostats plus a hot water timer.

10. How can I add group functionality to the 230v range?
In addition to the power, simply install a 0.5mm low voltage data cable at the first fix stage.

Our Technical support number is: 01895 425333.

Heat Output - Dry Floor Constructions

With a wide variety of Underfloor heating systems available, it is important to know what heat output you can expect from differing floor make ups. Outputs for Screeded systems are normally calculated using proven mathematical equations and experience. However, with the increasing use of renewable heat sources and lower water temperatures, performace for dry floor constructions can be difficult to calculate. Therefore, due to our ongoing commitment to product development, Speedfit have conducted performance testing at the independent test house , BSRIA for the Overfit, Underfit & Aluminium Heat plates systems. The tables below show typical output figures for various floor coverings and flow temperatures.

For advice on specific systems please contact our technical helpline 01895 425333.

HEAT OUTPUT TABLES (W/M²)

25mm Overfit -

Floor Finish + Resistence (Tog Value) — Flow and Return Temperature °C

	Tog Value	40/30	45/35	50/40	55/45
Tiles	0.1	36	50	65	78
Thin Timber Finish	0.5	32	45	58	70
Carpet Tiles / Laminate	1	29	40	52	64
Carpet and underlay	1.5	26	36	47	58

Figures based on 15mm PB tube using 150mm pipe centres and a 10mm Plywood laid over.

HEAT OUTPUT TABLES (W/M²)

50mm Underfit

Floor Finish + Resistence (Tog Value) — Flow and Return Temperature °C

	Tog Value	40/30	45/35	50/40	55/45
Tiles	0.1	22	20	39	48
Thin Timber Finish	0.5	20	28	36	44
Carpet Tiles / Laminate	1	18	26	33	41
Carpet and underlay	1.5	17	22	31	38

Figures based on 15mm PB tube using 200mm pipe centres and a 22mm chipboard deck laid over.

HEAT OUTPUT TABLES (W/M²)

Aluminium Spreader Plates

Floor Finish + Resistence (Tog Value) — Flow and Return Temperature °C

	Tog Value	40/30	45/35	50/40	55/45
Tiles	0.1	28	40	52	64
Thin Timber Finish	0.5	26	36	47	58
Carpet Tiles / Laminate	1	24	33	43	53
Carpet and underlay	1.5	22	30	39	48

Figures based on 15mm PB tube using 200mm pipe centres and a 22mm chipboard deck laid over.
Heat ouputs are for guidance only and can vary with water temperature, floor finish and construction.

Technical Checklist - Underfloor Heating

- **Applications.** Underfloor Heating Installations in solid or timber floors.
- **Pipes.** 15mm JG Speedfit Barrier Pipe to BS 7291, Parts 1, 2 and 3 Class S.
- **DO NOT USE Speedfit UFH Products for Gas, fuel oil or compressed air applications.**
- **Floor Insulation.** Should be a suitable material and thickness to comply with current regulations.
- **Minimum Bending Radii.** For Speedfit B-PEX Pipe is 175mm.
- **Minimum Bending Radii.** For Speedfit BPB Pipe is 120mm.
- **Expansion (PEX - Pipe).** 1% on length between 20˚C and 82˚C.
- **Cleaners, Inhibitors and Descalents.** For advice on the replenishment of additives such as corrosion inhibitors, the following manufacturers should be contacted Fernox Alent Plc on 01799 550811 or Sentinel Performance Solutions Ltd on 0151420 9595.
- **Paint and Chemicals.** Only use water or oil based paint. DO NOT ALLOW CONTACT WITH cellulose based paints, paint thinners or strippers, solder flux or acid based descalents or aggressive household cleaning products.
- **Exposure to sunlight.** Speedfit products, when used indoors, are not affected by sunlight. When used out doors protect from ultra violet light by lagging or painting.
- **Pipe Inserts.** Must be used on all installations when using plastic pipe and should be fully inserted.
- **Electrical Components.** Electrical products in the Speedfit Underfloor Heating System are designed only to be used in U.K. Electrical Supply situations.
- **Electrical Continuity.** If Speedfit is used in an existing metal system which may have been used for earthing, electrical continuity should be reinstated.
- **Pre-Screed System Testing.** To ensure the pipework has been installed correctly and prior to the screed being laid, it is essential that the system is checked and hydraulically wet tested.

Testing should be carried out at 2 bar for 10 minutes and 10 bar for 10 minutes.

This testing, combined with other relevant checks, should reveal installation problems and is regarded as good plumbing practice.

- **Pressurisation During Screed Laying & Curing.** In accordance with BS1264-4, the system should be left under pressure at a minimum of 6 bar for the duration of the laying and curing of the screed.

Under NO circumstances should the UFH System be used to quicken the screed drying process.

- **System Flushing.** As is usual practice for any plumbing installation, flushing of the system prior to the use of JG Speedfit is recommended to remove any contaminants/chemical residue from elsewhere in the system.
- **Vermin.** Speedfit products should not be used in vermin infested areas.
- **Frost Protection.** During the installation process it is important that pipe containing water be protected from frost.

Notes

John Guest Speedfit Limited

Horton Road, West Drayton, Middlesex UB7 8JL, England.

Tel: 01895 449233 Fax: 01895 420321
speedfit.co.uk speedfitUFH.co.uk
Technical Help Desk: 01895 425333

AVAILABLE FROM:

Z2105/290/0815