

# **Speedfit**<sup>®</sup>

## **UNDERFLOOR**

**THE PUSH-FIT SOLUTION FOR UNDERFLOOR HEATING**



*Includes this NEW addition:*

 **Layflat Pipe**  
*Installing pipe just got a lot easier.*

## **Underfloor Heating Systems**

**JANUARY 2013**

# CONTENTS:

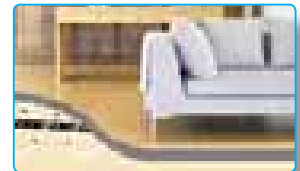
## **John Guest - Worldwide Connections**

Pages 4 and 5



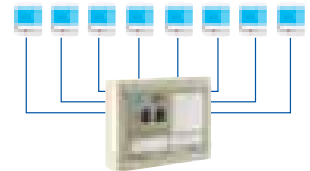
## **Introduction to Underfloor Heating**

Pages 6 to 9



## **Low Voltage Network Control System**

Pages 10 to 13



## **Touchpad Central Controller Option**

Control up to 32 thermostats from one central location using easy touch screen control.

Pages 14 and 15



## **Mains Voltage Electrical Control System**

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

Pages 16 and 17



## Wireless Control System

Slimline and attractive components which are easy to install and reliable with upgrade options.

Pages 18 and 19



## **NEW** Fixing Systems and System Components

Manifolds, pumps, pipe fixing systems and much more to help you complete your installation.

Pages 20 to 22



## **NEW** Pipe

Introducing JG Layflat Pipe.

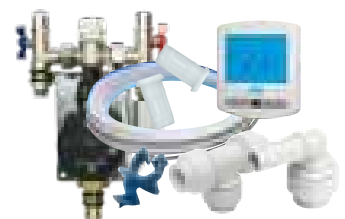
Page 23



## Underfloor Heating for Conservatories and Extensions

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

Pages 24 and 25



## Speedfit Support

An introduction to Speedfit Support.

Page 26 and 27



## Energy Saver System

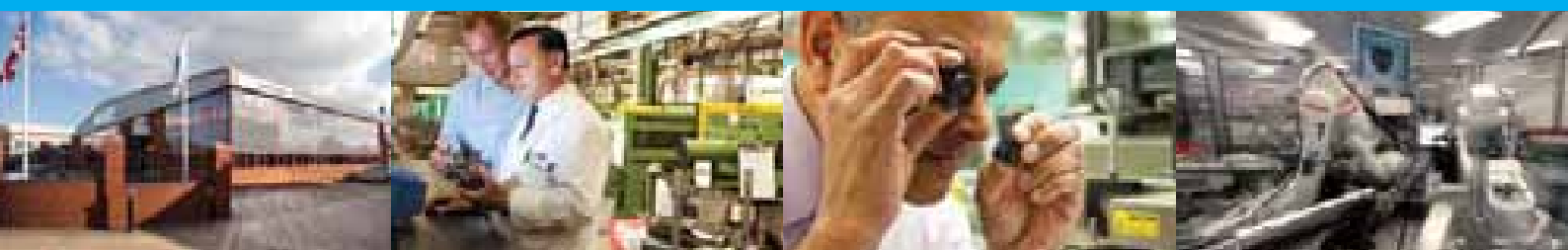
A radiator system with individual zone control.

Page 28



## 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.



British Gas Service

WRAS APPROVED PRODUCT



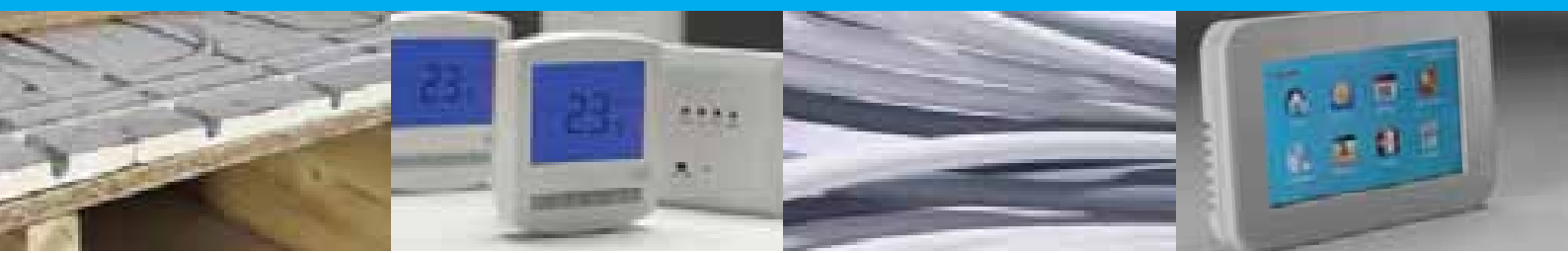
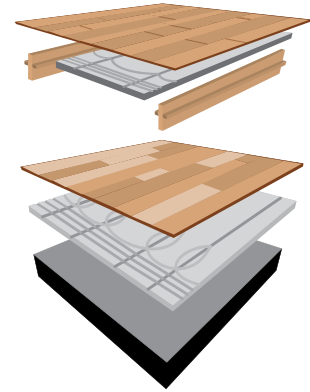
The Speedfit System for Underfloor Heating has been designed to be as quick and easy as possible to install with component parts manufactured under an ISO9001 Quality Management System.

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 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 finishes.

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.

**Technical Help Desk:**  
**01895 425333**

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.



# Underfloor Heating

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

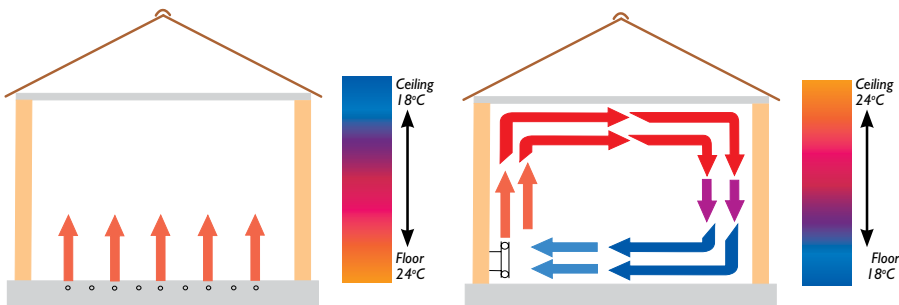
The Speedfit System has water being pumped from a boiler to a pump pack, where it is mixed to approximately 50°C then distributed via a manifold to heating circuits made using Speedfit Barrier Pipe. The pipe is laid in concrete or suspended just below the surface of the floor.

In concrete floors, the pipe is laid on insulation and then covered with a screed

on 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.

Dust is minimised reducing the problem of house dust mites. 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, make 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.

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 say 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.

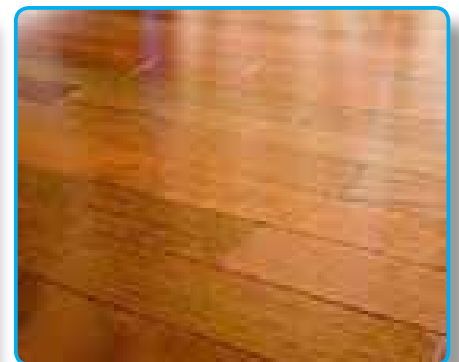
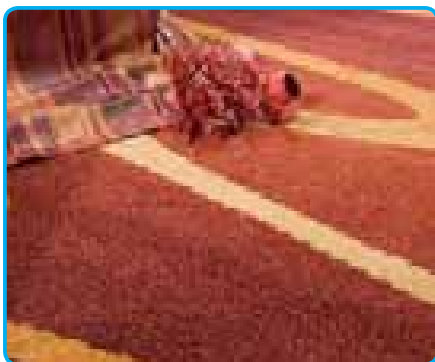
With the Speedfit System, set back can be achieved in two ways.

### 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.

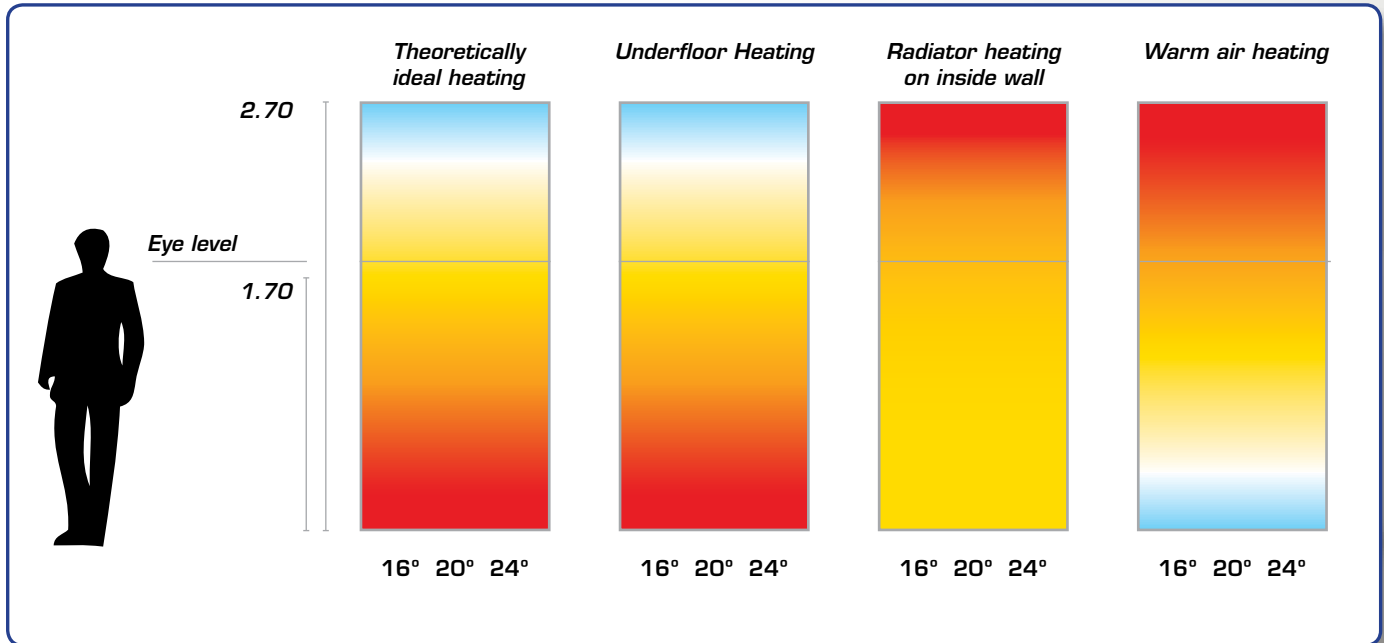
### Centralised Programming

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**

# 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. This is because cold air is more dense (heavy) and it is pulled downwards by gravity.

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.

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.





# Network Control System (Low Voltage)

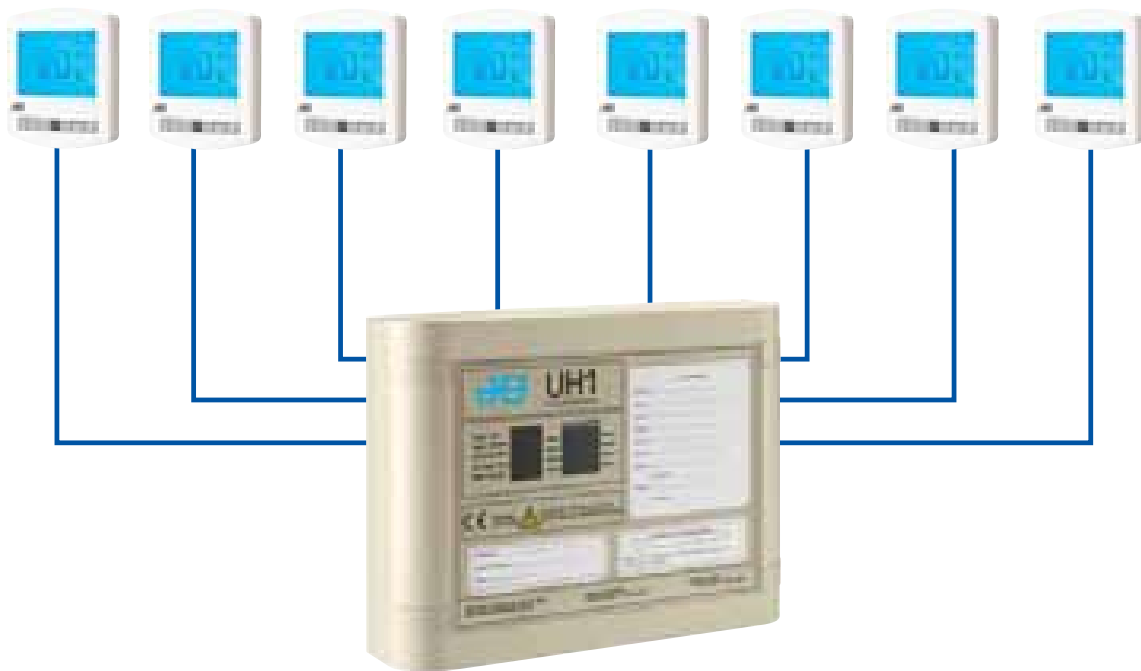
- **Easy to install and use**
  - **Reliable**
  - **Slimline, attractive components**
  - **With upgrade options**
- A range of de luxe Touch Screen Programmable Room Thermostats.
  - Direct control, of the whole system from a central TouchPad Controller.
  - Software options to give direct control from a PC, via the internet or from a mobile phone.

The new Underfloor Heating Network Control System from JG Speedfit differs from a normal underfloor heating system in that low voltage electrical components are 'networked' together using computer network cable\*, this one cable carrying signals between a wiring centre and all the components. This system enables programming of time and temperature for individual rooms to be carried out directly at the room thermostat or centrally by choosing from a number of upgrade options:-

*\*CAT5 cable is similar to telephone cable and used as computer network cable.*

*Beldon cable is best described as a heavier duty version of CAT5, it is easier to use than CAT5 and we would recommend Beldon cable be used on all installations.*

*However, if using CAT5 cable, ensure it is the shielded type. It is important to connect Y and B (Yellow and Blue) communication cables using two strands from a twisted pair.*





# Network Control System (Low Voltage)

## PROGRAMMABLE ROOM THERMOSTAT



Part No.	Description
JGSTAT/V3	PROGRAMMABLE ROOM THERMOSTAT

Room Thermostat which can be programmed in either 5 day/2 day or 7 day mode. Offers the facility of up to 4 different temperature settings per day. The thermostats are multi functional and are self learning. This means that to avoid unnecessary use of energy, the thermostat will delay the heating start up until the last possible moment needed to achieve the comfort level at the programmed time.

Can also be controlled using a TouchPad or PC or remotely using a PC with an internet facility.

The thermostat also has the facility to connect to 2 remote probes (JGPROBE).

## PROGRAMMABLE ROOM THERMOSTAT PLUS HOT WATER CONTROL



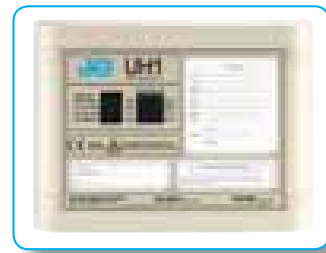
Part No.	Description
JGSTATPLUS/V3	PROGRAMMABLE ROOM THERMOSTAT

Room Thermostat which can be programmed in either 5 day/2 day or 7 day mode with an additional program for domestic hot water. Thus, hot water can be set to give 4 different timed control periods.

Can also be controlled using a TouchPad or PC or remotely using a PC with an internet facility.

Note there is no remote probe facility with this model.

## 8 ZONE WIRING CENTRE



Part No.	Description
JGUH1	8 ZONE WIRING CENTRE

Offers a simple solution for the control of underfloor heating hot water and radiator circuits that can all be wired to one central base. This also brings the benefit of TouchPad or internet control to radiators and hot water as well as to underfloor heating.

Actuators, boiler and pump connections are wired to a single point. Used in conjunction with our Network thermostats and ideally installed near to the manifold, the Wiring Centre provides individual control of up to 8 zones plus hot water.

Neons show Power, Water, Pump, Boiler and Motorised Valve.

## REMOTE PROBE & SENSOR BOX



Part No.	Description
JGPROBE	REMOTE PROBE
JGSENSOR	SENSOR BOX

### Use with a JGSTAT/V3 or a Touchscreen Thermostat

Used in conjunction with a thermostat to control temperature in another room or to control floor temperature.

When using an air sensor, install with a JGSENSOR Sensor Box.

# Network Touch Screen Range

The JG Speedfit Touch Screen Range of deluxe Touch Screen Programmable Room Thermostats which can be used alongside other network products allowing remote programming from options such as TouchPad, Home PC, the

internet or mobile phone giving ultimate control over your heating system. The intuitive, easy to use touch screen display makes the user manual a thing of the past.

- NETWORK TOUCH SCREEN THERMOSTAT FEATURES**
- 4 Heating Levels
  - Optimum Start
  - Holiday Function
  - Keylock Function
  - Temperature Hold Function
  - Temperature Override
  - Frost Protection

## TOUCH SCREEN NETWORK ROOM THERMOSTAT



Part No.	Description
JGSTAT/TS/V3	TOUCH SCREEN NETWORK ROOM THERMOSTAT

Can be used in 5 day/2 day mode or a 7 day mode to allow for different time settings for each day of the week, giving total user flexibility.

The Thermostat is self-learning. To avoid unnecessary use of energy, the thermostat can be set to optimum start, delaying the heating start up to achieve the comfort level at the programmed time.

## TOUCH SCREEN NETWORK ROOM THERMOSTAT PLUS HOT WATER CONTROL



Part No.	Description
JGSTATPLUS/TS/V3	TOUCH SCREEN NETWORK ROOM THERMOSTAT

Has all the features of the JGSTAT/TS/V3 plus the additional programme for domestic hot water. The hot water feature can be set to give 4 different time control periods per day.

## TWIN CHANNEL TOUCH SCREEN NETWORK ROOM THERMOSTAT



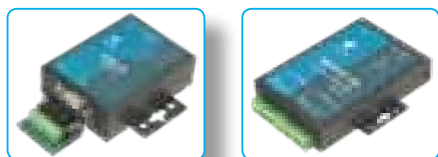
Part No.	Description
JGSTAT2/TS/V3	TOUCH SCREEN TWIN CHANNEL NETWORK ROOM THERMOSTAT

Brings the sophistication of touch screen technology at a similar cost to using dial thermostats by reducing the number of thermostats required in a property.

The 2 channel facility allows one thermostat to control 2 zones at the touch of the thermostat's screen. This makes it perfect for a bedroom with ensuite or living room and dining room.

# Network Software Options

## ETHERNET ADAPTORS



Part No.	Description
JGNETADAPI	1 Port Ethernet Adaptor (controls up to 32 room thermostats)
JGNETADAPI	2 Port Ethernet Adaptor (controls up to 64 room thermostats)

Connects to a PC with JGPCLITE software so it can 'talk' to 12 Volt Network Products. The Adaptor can be connected to a broadband router to enable the PC to 'talk' to the system over the internet.

## NET MONITOR



Part No.	Description
JGNETMON1	NET MONITOR

**With built in software**

Allows for communication over the internet from any PC without the need for specialist software to be installed, dialling into the system via the internet using a password.

## NET MONITOR - GSM



Part No.	Description
JGNETMON2	NET MONITOR GSM

**With built in software**

**Has the same functions as JGNETMON1 but with an additional GSM facility.**

This means the user can control the whole house heating system using text messaging on a mobile phone. Recommended for holiday homes or for people who work away from their property.

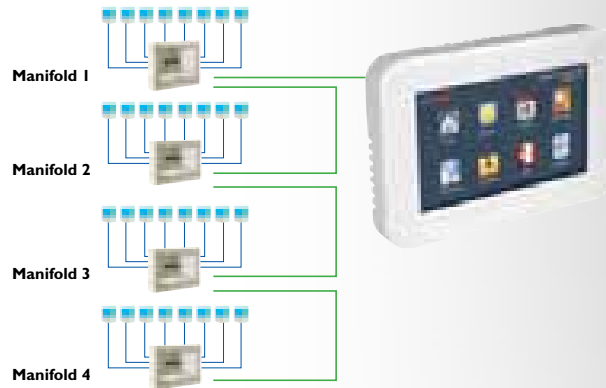
# TouchPad Option

Control up to 32 zones

## TOUCHPAD NETWORK CONTROLLER



The Touchpad can be used to control up to 32 zones.










Part No.	Description
JGTOUCHPAD/TFT	TOUCHPAD NETWORK CONTROLLER

The TouchPad features an easy touch screen control of up to 32 zones of heating. You are able to name each thermostat allowing easy identification of each thermostat in the network, remotely program the comfort levels of all networked thermostats from one central point. Program settings can be copied from one thermostat to another.

Also has the option of being able to control the hot water and radiator circuits.

## TFT Display - New Features

New TFT LCD offering a greatly improved viewing angle and display resolution.

-  **v3 Compatible** - The New TFT Touchpad is compatible with v3 thermostats.
-  **Group Feature** - Allows the user to group thermostats, for use with Profile function.
-  **Profile Feature** - Allows the user to pre-program a set of comfort levels, apply them to a group of thermostats and store against a profile name. When the profile is run, the thermostats in the group receive the new comfort levels.
-  **Zone Link Facility** - Linked zones appear as a linked button, meaning that programmed comfort levels are sent to all of the linked zones.
-  **USB Function**
  - Ability to import pictures (for screensaver operation)
  - Export of history data
  - Update of firmware via Internet Download
-  **Heat/Cool Function** - An upgrade will provide control for underfloor heating and cooling. This firmware update will provide dew point control.
-  **Language Function** - Dutch, German, French and English will be supported.



# Mains Voltage Controls System

The components in the mains voltage control systems have been designed to work with their respective wiring centres and are not intended to be used with other wiring centres.

- **Easy to use**
- **Easy to install**
- **Attractive slimline components**

Easy to use and install, the John Guest Mains Voltage Controls offer simple but effective control of up to 8 zones. The UH3 Wiring Centre is the hub of the system. It works either in conjunction with our Touch Screen Time Clock and simple to use Dial Setback Thermostats, or, alternatively, our Programmable Room Thermostats. There is also the ability to use both types of thermostat in the same system.

The JGUH3 Wiring Centre has the capability for control of 8 heating zones and integrated connections for underfloor heating zones, boiler, hot water control, Time Clock and the option of a radiator circuit. Having all wiring to one central point makes the JGUH3 much easier to wire up than a conventional underfloor heating wiring centre.

## TOUCH SCREEN TIME CLOCK



Part No.	Description
JGTM4	TOUCH SCREEN TIME CLOCK

- **Touch Screen technology**
- **Operates up to 4 zones**
- **4 different time settings per day**
- **Holiday function**

Designed to be used with JGDSSB Dial Setback Room Thermostat (see page 17) and the UH3 Wiring Centre.

A mains voltage Touch Screen 4 Channel Time Clock that can be set to a 5 day/2 day or 7 day programme mode and has the facility to operate up to 4 different time settings per day. The 4 zones can be used to control underfloor heating, radiator heating or hot water.

A copy facility makes for easier programming. Whilst a holiday function will put the system into permanent set back mode while you are away from the property.

Note that Programmable Room Thermostats do not need the control of a separate time clock as they have their own built in time and temperature facility.

## PROGRAMMABLE ROOM THERMOSTAT



Part No.	Description
JGPRTE	PROGRAMMABLE ROOM THERMOSTAT

- **Individual zonal temperature control**
- **5 day/2 day or 7 day programme**
- **Multi functional**

A slimline Digital Programmable Room Thermostat to give individual time and temperature control on a 5 day/2 day or 7 day programme to allow for different time settings for every day of the week providing total flexibility. Offers the facility of up to 4 different time and temperature settings per day. The thermostats are multi-functional and self learning. This means that to avoid unnecessary use of energy, the thermostat will delay the heating start up until the last possible moment needed to achieve comfort level at the programmed time.

The thermostat features a large backlit display which makes for easy reading when in use, and has the facility to connect to a remote probe part number JGPROBE (see page 12).

A holiday function reduces the set temperature to a frost setting during a holiday period and reverts back to comfort level at the end of a predetermined period.

## PROGRAMMABLE ROOM THERMOSTAT PLUS HOT WATER TIMER



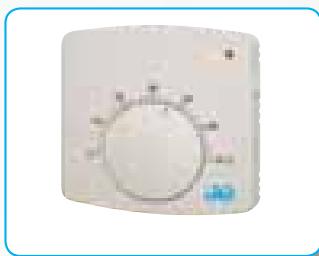
Part No.	Description
JGPRTHW	PROGRAMMABLE ROOM THERMOSTAT PLUS HOT WATER CONTROL

- **Individual zonal temperature control**
- **Addition of 5 day/2 day hot water timer**

As JGPRTE but with an addition of a 5 day/2 day timer for domestic hot water. Heating and hot water can be set to give different timed control periods.



## DIAL SET BACK ROOM THERMOSTAT



Part No.	Description
JGDSSB	DIAL SET BACK ROOM THERMOSTAT

Used in conjunction with a Touch Screen Time Clock JGTM4.

A modern easy to use Dial Room Thermostat with Set Back facility controlled from a centralised time clock JGTM4.

The thermostat is set manually to "Daytime" temperature. A "Set Back" mode reducing temperature by 4°C is controlled by a Central Timer Clock (Part Number JGTM4). A manual override allows for permanent "Daytime" or permanent "Set Back".

Neons indicate "Daytime" and "Set Back" mode and confirm if the room is calling for heat.

The thermostat also has the facility to be connected to a remote probe part number JGPROBE.

## 8 ZONE WIRING CENTRE



Part No.	Description
JGUH3	8 ZONE WIRING CENTRE

- **Easy to wire**
- **4 time clock connections**

Easily wired up, the wiring centre offers a simple solution for the control of Underfloor Heating, plus hot water and 1 radiator circuit, conveniently allowing all to be wired to a central base.

Of 4 Time clock connections, 2 are dedicated for setback zones and 2 are user selectable for hot water, towel rail or radiator circuits.

Neons indicate Zone, Power, Water, Pump, Boiler and Motorised Valve operation.

Dedicated connections for Boiler, UFH Pump UFH Motorised Valve, 4 Channel Time Clock, Actuators etc.

JGUH3 can also be used for the control of Energy Saver Radiator Zones (see page 28).

## Wireless Control System

- Easy to install and use
- Reliable
- Slimline, attractive components
- System can accommodate Underfloor Heating, Radiator Zones or a combination of both



The new **Wireless Control System** permits flexible location of thermostats in domestic heating installations. The programmable thermostats work in conjunction with the **Wireless 8 Zone Wiring Centre**, which is mains powered and is ideally suited to warm water underfloor heating as well as radiator installations. To extend the wireless range, wireless repeaters are available to 'boost' the signal. The system is a low cost and time-efficient alternative as no cables have to be run.

### WIRELESS PROGRAMMABLE ROOM THERMOSTAT



Part No.	Description
JGWPRT	WIRELESS PROGRAMMABLE ROOM THERMOSTAT

Allows flexible location and ease of installation in domestic heating installations. The programming mode allows for 5/2 or 7 day set-ups at a 0-35°C temperature range.

With a battery operated range of up to 100m operating at a frequency of 868MHz, the wall mounted thermostats are compatible with receivers JGWWC and JGWRC.

There are 4 heating levels and a holiday function which puts the system into a permanent set-back mode while you are away from the property. The thermostats are not compatible with other JG control ranges.

### WIRELESS PROGRAMMABLE ROOM THERMOSTAT PLUS HOT WATER



Part No.	Description
JGWPRTHW	WIRELESS PROGRAMMABLE ROOM THERMOSTAT

Similar to a standard Wireless Thermostat (JGWPRT) with the addition of a 5 day/2day timer for domestic hot water. Heating and hot water can be set to provide different timed control periods. Thermostats are not compatible with other JG control ranges.

### WIRELESS REPEATER



Part No.	Description
JGBOOSTER	WIRELESS REPEATER

Mains powered this optional booster/repeater is placed between a thermostat/s that are out of signal range of the main receiver or in poor reception areas, allowing extended range.

Operating at a frequency of 868MHz, the signal is 'repeated' between receivers JGWWC or JGWRC. Recess mounted requiring 35mm back box. If needed, can also be used in multiples allowing extreme range. 230V powered and non-networkable.

### WIRELESS 2 ZONE RECEIVER



Part No.	Description
JGWRC	WIRELESS 2 ZONE RECEIVER

Mains powered and is capable of controlling 2 heating zones or 1 heating and 1 hot water zone, using JG Speedfit Wireless thermostats.

Up to 32 units can be used with the wireless stats and has an operating distance of up to 100m. Recess mounted requiring 35mm back box. 230V powered and non-networkable.

### WIRELESS 8 ZONE WIRING CENTRE

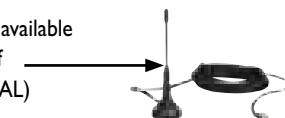


Part No.	Description
JGWWC	WIRELESS 8 ZONE WIRING CENTRE

Mains powered and ideally suited to warm water underfloor heating as well as radiator systems or a combination of both, using JG Speedfit Wireless Thermostats.

Operating at a frequency of 868MHz, central wiring allows for up to 8 zone actuators with an output for domestic hot water. Internal software can distinguish between hot water, underfloor heating, and radiator signals. 230V powered and non-networkable.

Optional aerial is available to extend range if required (JGAERIAL)



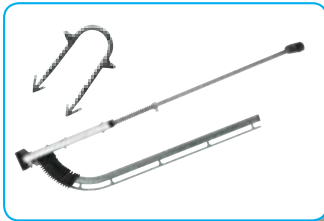
### EXTERNAL AERIAL



Part No.	Description
JGAERIAL	EXTERNAL AERIAL FOR USE WITH 8 ZONE WIRELESS CENTRE JGWWC

# 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 20m<sup>2</sup>.

## CONDUIT ELBOW



Part No.	Description
JGUFHCONELB	CONDUIT ELBOW

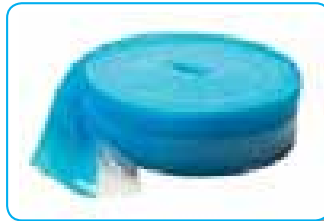
## MOUNTING RAIL



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 20m<sup>2</sup>.

## 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.

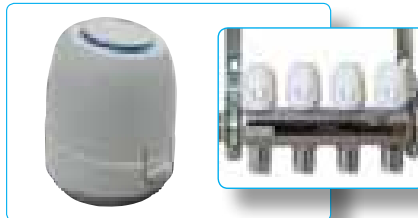
## FLOOR CLIP



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.

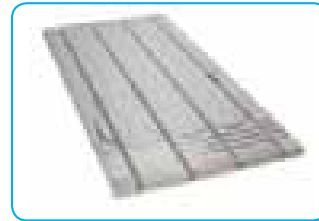
## ACTUATOR VALVE



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

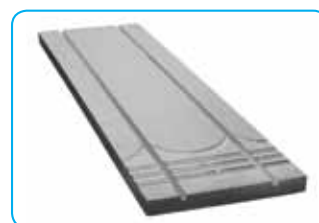
Low profile system for new build or renovation projects. Grooved foil faced insulation panel for installing 15mm tubing over existing floor structures to facilitate the use of Underfloor Heating.

Recommended flow temperature 50 - 60°C  
 Maximum circuit length 100m  
 Typical cover per loop 13 - 15m<sup>2</sup>  
 Individual panel size 600 x 1250 x 25(mm)  
 Pipe spacing 150mm

Approx 7.5m<sup>2</sup> per box.

Heat output information available on page 29.

## UNDERFIT® BOARD - JOISTS AND BATTENED FLOORS



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

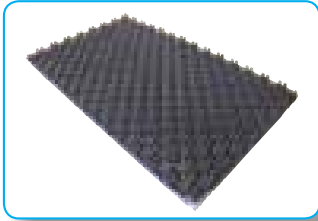
Grooved foil faced insulation panel for installing 15mm tubing over existing floor structures (between battens) or under floor (between existing joints).

Recommended flow temperature 50 - 60°C  
 Maximum circuit length 100m  
 Typical cover per loop 15 - 20m<sup>2</sup>  
 Individual panel size 350 x 1200 x 50(mm)

Approx 4m<sup>2</sup> per box.

Heat output information available on page 29.

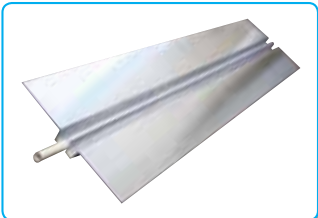
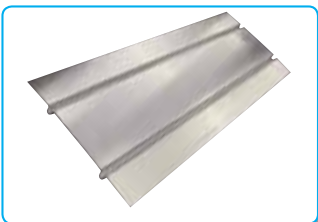
## FLOOR PANELS



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 1,000mm 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 1m<sup>2</sup>

Below: approx 4 plates per 1m<sup>2</sup>

**Heat output information available on page 29.**



# System Components

## MANIFOLDS - STAINLESS STEEL



Part No.	Description
JGUFHMAN2/2	2 ZONE MANIFOLD
JGUFHMAN3/2	3 ZONE MANIFOLD
JGUFHMAN4/2	4 ZONE MANIFOLD
JGUFHMAN6/2	6 ZONE MANIFOLD
JGUFHMAN8/2	8 ZONE MANIFOLD
JGUFHMAN10/2	10 ZONE MANIFOLD
JGUFHMAN12/2	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. Can be assembled to suit left or right hand supply depending upon project type.

## CONTROL PACK - NICKEL PLATED

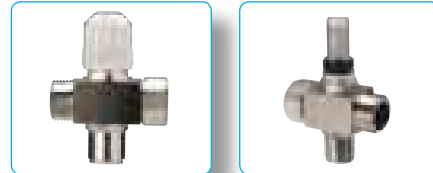


Part No.	Description
JGCONTROL/2	CONTROL PACK

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 stainless JG Speedfit Manifold.

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

## 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

## MANIFOLD BALL VALVE



Part No.	Description
SPUFH7	Manifold Ball Valve - RED

## MANIFOLD BALL VALVE



Part No.	Description
SPUFH7	Manifold Ball Valve - BLUE

## DRAIN/FILLING VALVE



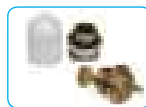
Part No.	Description
SPUFH9	Drain/Filling Valve

## MANIFOLD FLOW METER



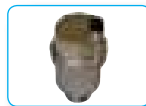
Part No.	Description
SPUFH10	Manifold Flow Meter

## MANIFOLD ISOLATING VALVE



Part No.	Description
SPUFH11	Manifold Isolating Valve

## UFH AIR VENT



Part No.	Description
SPUFH13	UFH Air Vent

## PTFE WASHER



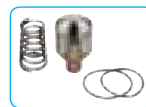
Part No.	Description
SPUFH14	PTFE Washer

## SERVICE KIT



Part No.	Description
SPUFH15	Service Kit - JGCONTROL2

## SERVICE KIT



Part No.	Description
SPUFH16	Service Kit - JGROOMPACK

## CONNECTION BOX



Part No.	Description
SPUFH17	Connection Box - Stat



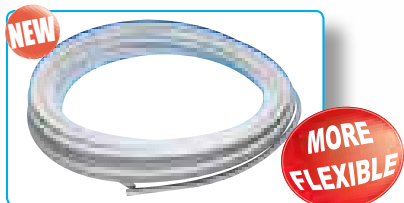
# Pipe

## Layflat Pipe

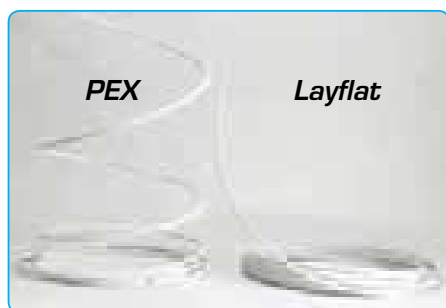
**LAYS FLAT - STAYS FLAT - ULTRA FLEXIBLE**

Coils. The pipe is made from a soft material with little memory ensuring a 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.

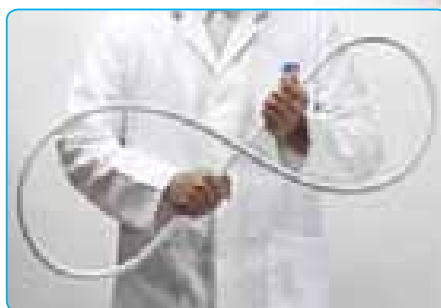
### JG LAYFLAT® POLYBUTYLENE BARRIER PIPE



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

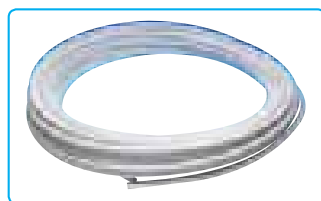


*Easy to Handle*



*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

# Underfloor Heating for Conservatories and Extensions

## SINGLE ROOM CONTROL UNIT

Part No.	Description
JGROOMPACK	SINGLE ROOM CONTROL UNIT
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 30m<sup>2</sup>.

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.

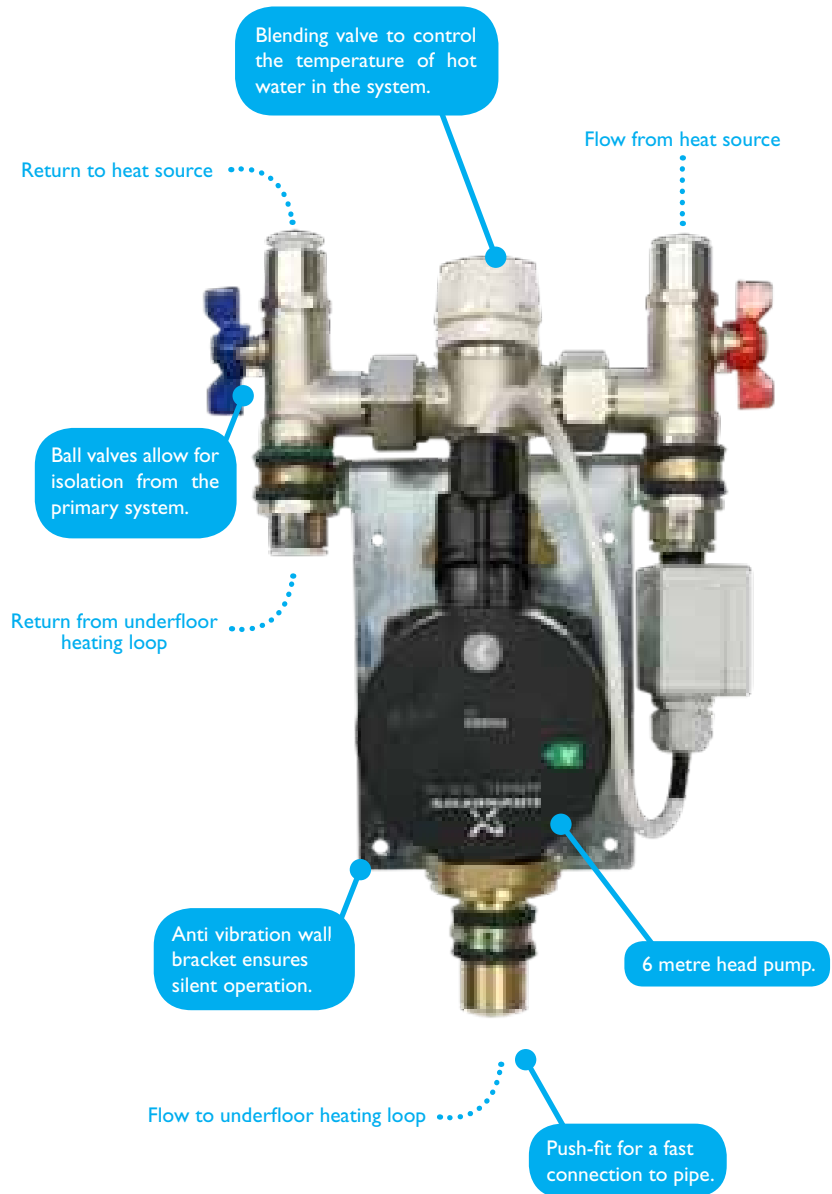
Speedfit recommend connection to the main central heating flow and return distribution system, using a dedicated motorised valve. It is also possible to connect to the nearest radiator supply pipe. If connected to an existing radiator circuit, the pump will be unable to operate independently, only able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

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, with a simple menu for easy adjustment. Control can be either 5 day/2 day or 7 day with up to 4 different time and temperature settings per day.

**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

### THE 20SQM PACK CONTAINS :-



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

### Part No.

JGUFHPACK30

### THE 30SQM PACK CONTAINS :-



- 1 Control Unit
- 1 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

### THE WIRELESS 30SQM PACK CONTAINS



- 1 Control Unit
- 1 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 2 Zone Wireless Receiver

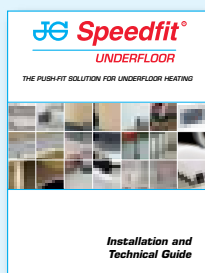
## Speedfit Support

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](mailto:info@johnguest.com)



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

HI I'M DAVE FROM SPEEDFIT SUPPORT, AND WE'RE HERE TO SOLVE ALL OF YOUR UNDERFLOOR HEATING QUERIES.



# **SPEEDFIT** **SUPPORT**



**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 us 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.

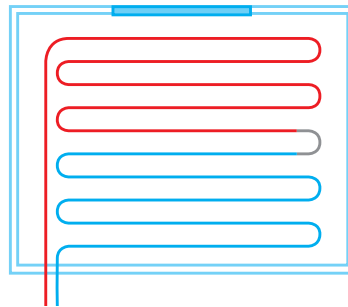


### OVER EXISTING FLOORS

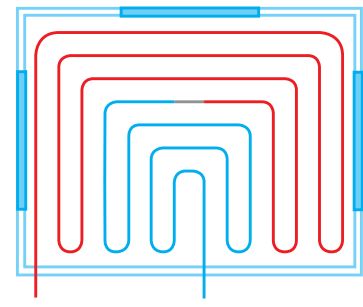
An Underfloor Heating system that is installed over existing flooring which is suitable for both new build and renovation projects. This means that current flooring does not require extensive alteration.

### PIPE LAYOUT IN SOLID FLOOR INSTALLATIONS

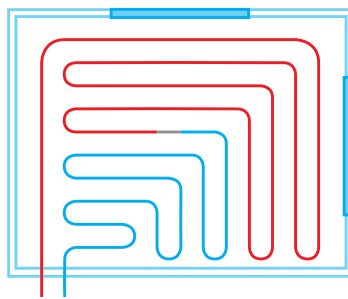
The shape of the room and the position of the outside walls and windows will determine the pattern of the pipe layout. The counterflow pattern is recommended although other options are shown opposite.



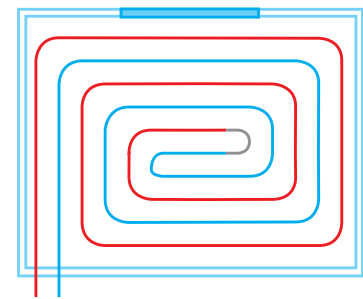
Single Serpentine



Triple Serpentine



Double Serpentine



Counterflow

## Energy Saver System

### THE SYSTEM

Using standard manifold connections it is possible to develop a radiator valve capable of being controlled by a 240v Actuator head instead of a wax head, it will be possible to control each radiator, or groups of radiators, by time and temperature, instead of just time.

It will use conventional heating systems and be very easy to install, requiring no extra work from the plumber.

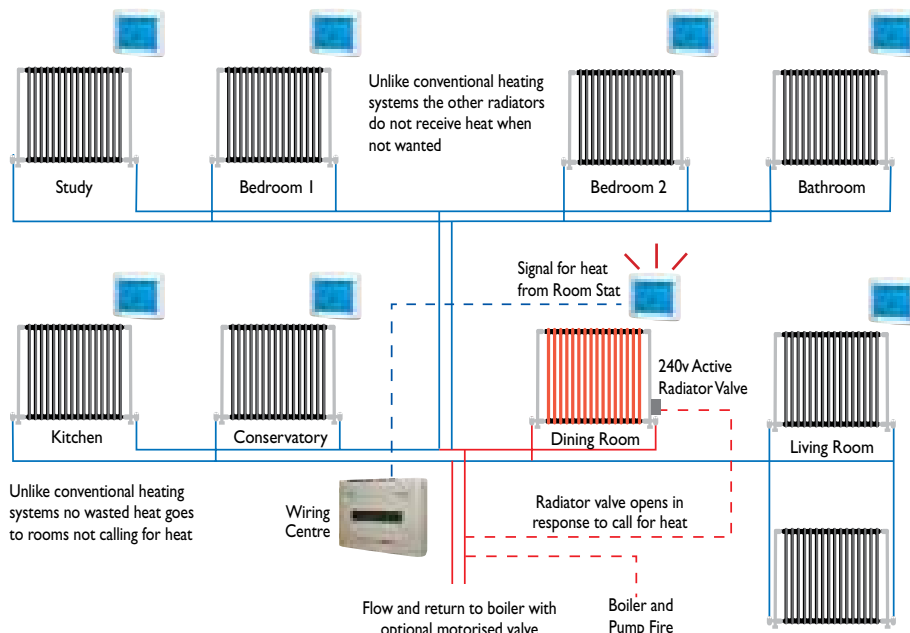
Control wires need to be routed to the radiators, but this will be an easy task enabling this system to be installed in new or existing applications worldwide.

### FITTINGS AND PIPE

Speedfit offer a full range of push-fit fittings and pipe to cover any plumbing or heating situation.

Performance specifications are well within those required for most domestic plumbing and heating systems including mains feed cold water systems and vented and unvented hot water systems.

The system is approved by the British Board of Agrément and the Water Regulations Advisory Scheme. Speedfit 'PEM', 'PSE' and 'SFM' Fittings and Speedfit Barrier Pipe are Kitemarked to BS7291 Parts 1, 2, & 3 Class S Licence No KM39767.



*"The ability to properly control individual rooms according to their use appealed to us in a number of ways. It is energy efficient, user friendly and is the way heating systems of the future need to be installed. We were so convinced we have installed it on a prestigious development in Boverton."*

Steven Vanprag Summerhouse Point Development Ltd

*"I am installing the Manifold system in my new house. I like the idea of being able to turn off areas of my house that I am not using. Only paying for the heat in the rooms that I want and when I want, it seems obvious when I think about it."*

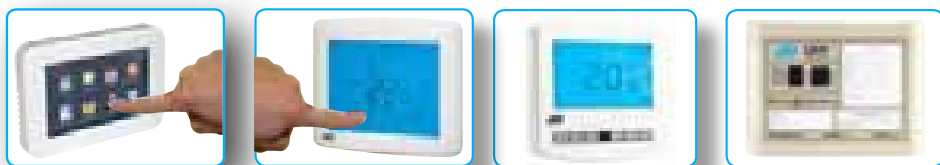
Royston O'Riley Home owner

### ELECTRICAL CONTROLS FOR USE WITH ENERGY SAVER SYSTEM

Choose from a range of:

#### Low Voltage Network Control Products

TOUCHPAD, TOUCH SCREEN  
 THERMOSTAT, PROGRAMMABLE  
 THERMOSTATS AND WIRING CENTRE



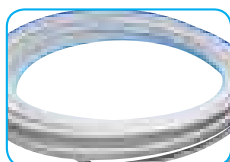
#### Mains Voltage Electrical Controls

WIRING CENTRE, TIME CLOCK, DIAL  
 THERMOSTAT PROGRAMMABLE ROOM  
 THERMOSTAT AND ACTUATOR VALVE

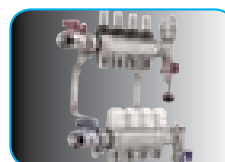


#### Pipe

SPEEDFIT PEX AND POLYBUTYLENE  
 BARRIER PIPE



#### Manifolds



## 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, performance 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/M<sup>2</sup>)

#### 25mm Overfit -

Floor Finish + Resistance (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 outputs are for guidance only and can vary with water temperature, floor finish and construction.

### HEAT OUTPUT TABLES (W/M<sup>2</sup>)

#### 50mm Underfit

Floor Finish + Resistance (m <sup>2</sup> K/W)	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 outputs are for guidance only and can vary with water temperature, floor finish and construction.

### HEAT OUTPUT TABLES (W/M<sup>2</sup>)

#### Aluminium Spreader Plates

Floor Finish + Resistance (m <sup>2</sup> K/W)	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 outputs are for guidance only and can vary with water temperature, floor finish and construction.

Further information and advice is available on 01895 425333 or [www.speedfitufh.co.uk](http://www.speedfitufh.co.uk)

## 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.
- **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 Manufacturing Limited on 01799 550811 or Sentinel, BetzDearborn Limited 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 outdoors 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.
- **Collet Clips.** White and Grey collet clips are used with standard fittings to prevent accidental pipe disconnection. Red or blue clips provide colour coding of pipe. Red and blue clips should not be used to prevent accidental release of pipe.
- **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  
www.speedfit.co.uk | www.speedfitUFH.co.uk

Technical Help Desk: 01895 425333



AVAILABLE FROM:

The company has a policy of continuous research and development and reserves the right to amend without notice the specification and design of all products illustrated in this catalogue. John Guest Speedfit reserve the right to change the colour and shape of products. Photographs are for illustration purposes only.

Subject to our Terms and Conditions of Sale available on request.

 **John Guest**® and **Speedfit**® are registered trademarks of **John Guest International Limited**

© Copyright 2013.

**Z2105/290/01/13**