

INSTALLATION MANUAL



Ref:

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www.ukunderfloorheating.co.uk



We have used UK Underfloor Heating on multiple occasions and have always found them to be very helpful, knowledgeable and quick to answer any queries we may have. We will continue to use them going forward for all our underfloor heating requirements.

E&W Plumbing & Heating



Fantastic service- cannot thank the team enough or recommend the service highly enough. Helpful, polite and prompt, had installation of underfloor heating in an extension, easy mess free and economical running costs, when had minor glitch due to air, was reassured and had the issue resolved so quickly. Absolutely brilliant! Thank you.

Victoria Waddoups



Absolutely brilliant service and knowledge throughout the company. Everyone I dealt with couldn't do more, from the first enquiry to after the UFH was fitted. Shining example of the way things should be done

Rob Woodger

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WHAT IS UNDERFLOOR HEATING?

1

Water based underfloor heating systems are a method of heating your home efficiently without the unsightly view of radiators. Pipe work runs underneath your floor, heating it and transferring this heat into the room.

Underfloor heating has a much different feel from traditional radiators due to how it operates. A traditional radiator system works by heating the air at the top of the room and working down towards head height whereas an underfloor heating system works from the ground up, heating the initial six feet from the ground first.

Underfloor heating also relies on a thermal mass in most installations, the inclusion of a thermal mass such as a screed or levelling compound encapsulating the pipework provides a level of heat retention for the system. This means once the system has successfully heated the room to the set temperature and stops calling for heat from the boiler the residual heat from the thermal mass will keep the room warm for hours without the system having to fire up again. This results in an energy cost saving as less gas/ electric from the heat source is required to keep the room comfortable.

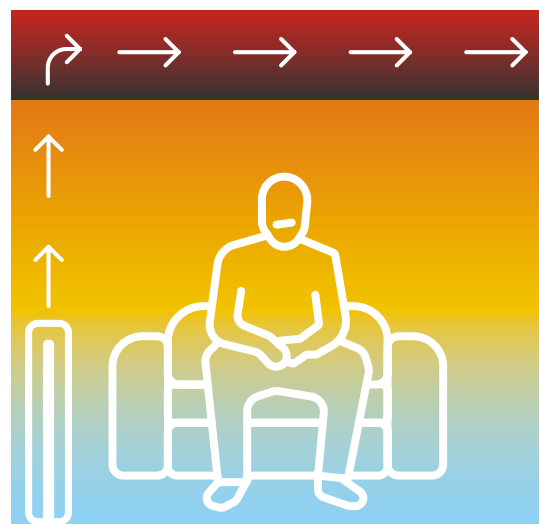


Fig 1



Fig 2

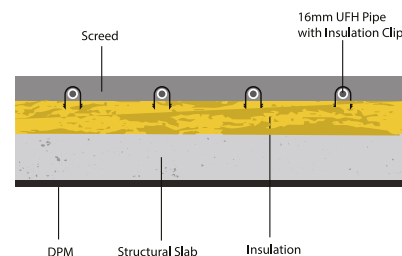
EXAMPLE

Steve has set the room temperature for his living room to 20°C, after 1 hour the system has reached the desired temperature and stops calling for heat from the boiler. The 65mm screed thermal mass in Steve's floor retains the heat and transfers it into the room for the next four hours before the room temperature drops to 18.9°C and the system fires up again.

Underfloor heating can be installed in a variety of floor constructions, so no floor is unsuitable for underfloor heating.

SCREED OVER INSULATION

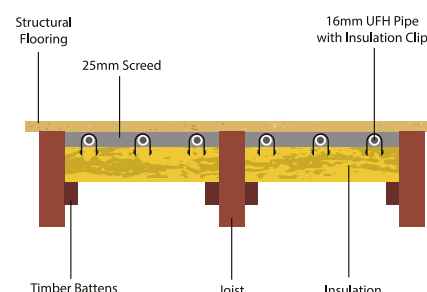
The most common and traditional method of underfloor heating, in this method the pipework is clipped to insulation and then screeded over with either a liquid or sand and cement screed. This method is commonly used in extensions, new builds and property refurbishments where the floor is being excavated.



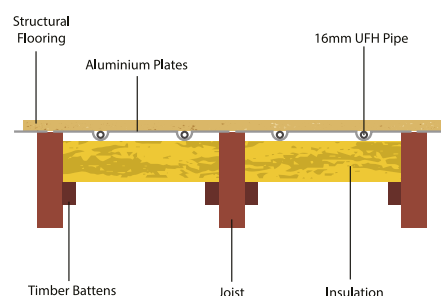
JOISTED SYSTEMS

Another common system, especially for first floor underfloor heating, is a between joist system. With the between joist system there are two main options.

OPTION 1 – The screed between joist method, which involves installing ridged insulation between the joists leaving a 25mm gap between the insulation and the top of the joist, the pipework is then clipped onto the insulation and the gap is filled with a 25mm screed of sharp sand and cement (and a small amount of water).



OPTION 2 – The aluminium plate method also involves insulation between the joists with either insulation or rockwool. The aluminium plates are laid onto this insulation and fixed to the top of the joists so that the pipe work can be run into the preformed channels in the plates.



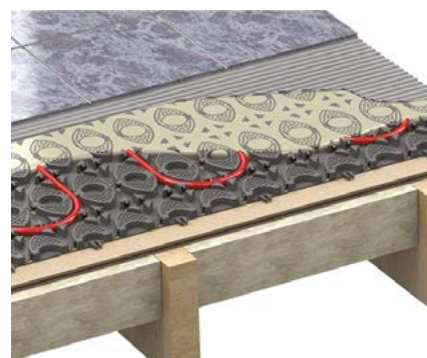
You may prefer the aluminium plate method over the screed between joist method due to weight limitations with the joisted floor or a need to avoid the drying time required for the 25mm of screed.

OVERLAY SYSTEMS

An overlay system is the method of laying a very thin system over the top of an existing concrete or timber floor where a minimal height build up is required.

One example of this is the 15mm Profix system which involves laying the adhesive backed Profix panels across your floor with a few mechanical fixings to make sure the system is solid; the pipework is then clipped into the panel and a levelling compound is poured flush with the top of the panel encapsulating the pipe in a thermal mass.

Other methods of overlay are available depending on the height build up available, the heat source and the final floor finish.



When requesting a quotation there are a couple of key details, we require to provide you with an accurate quotation.

Essential details

- Floor plans / a rough sketch with dimensions / individual room sizes
- The current or proposed floor construction
- Heat source e.g., gas boiler, oil boiler or heat pump

Additional details

- Manifold position
- Control type required e.g., wired or wireless thermostats with or without smartphone control.
- Floor finish

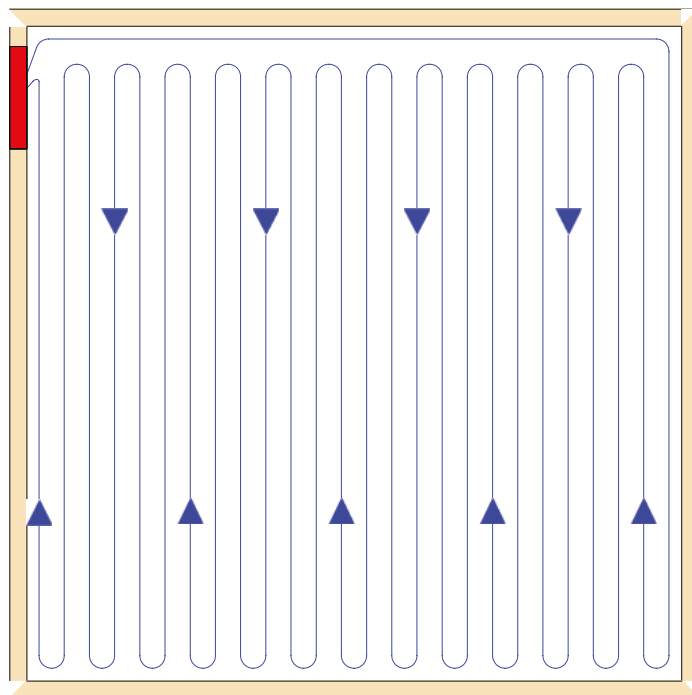
Floor Finishes

Most floor finishes can be used with underfloor heating such as tiles, laminate, engineered wood, LVT and even underfloor heating suitable carpet. Always enquire with your flooring supplier about a flooring's suitability with underfloor heating.

Depending on the system you have been supplied you will have a couple of options when laying the pipework.

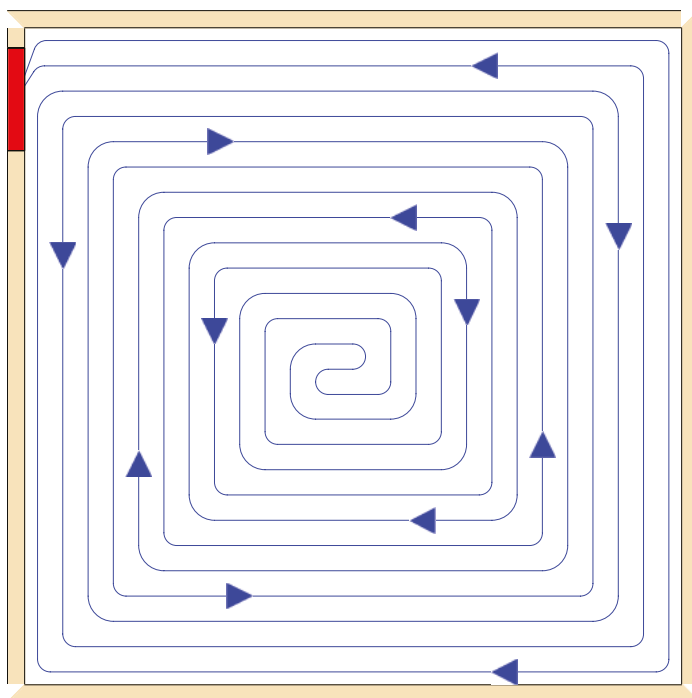
SERPENTINE

With this method you run your pipework towards the far corner from where you enter the room then 'snake' the pipe back at the centres specified. To avoid kinking the pipe at the turns it is recommended to have the turns be larger spacings in a 'lightbulb' fashion.

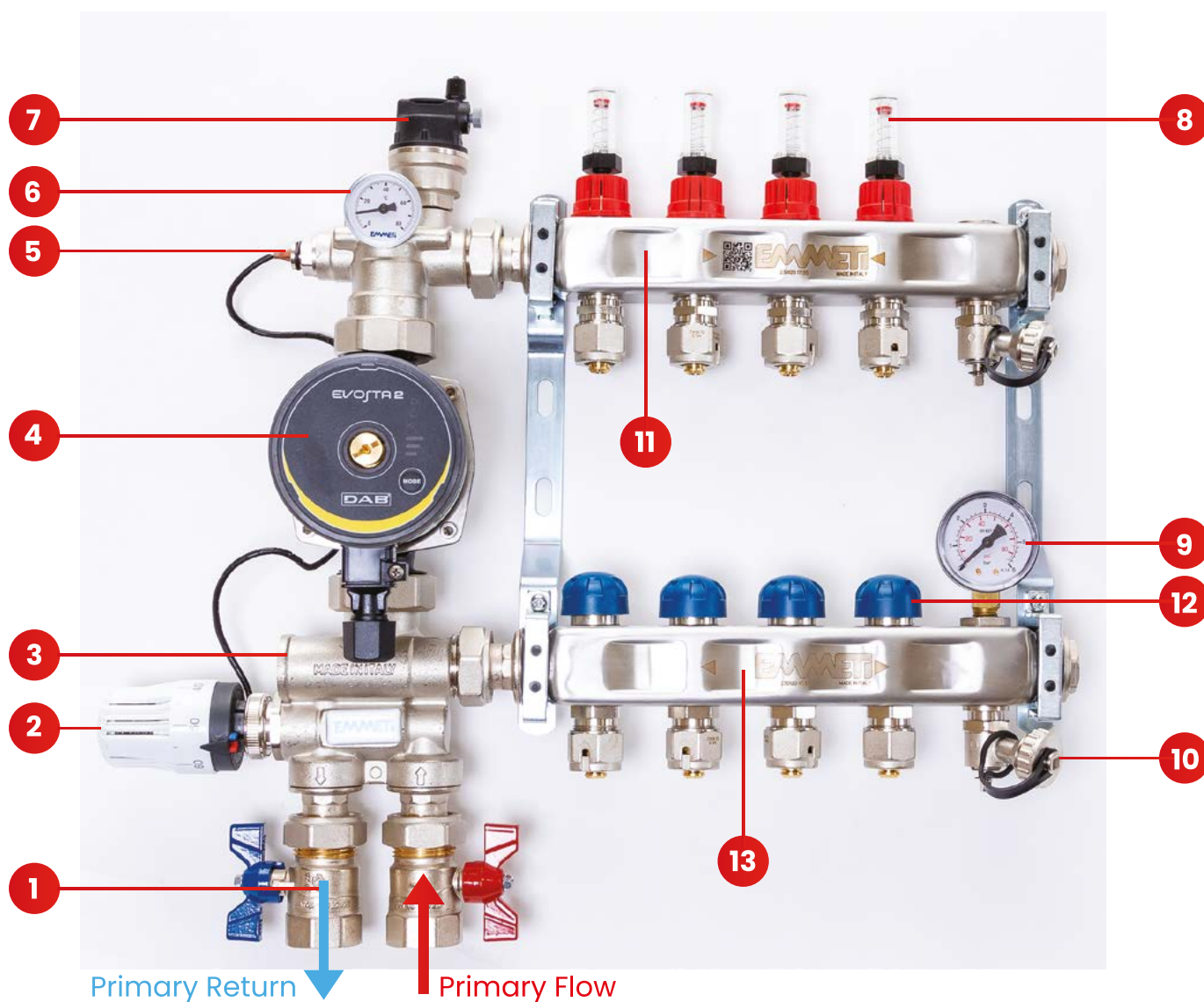


COUNTERFLOW

Once again work your pipework towards the far corner from where you enter the room but instead of heading back you will want to start working towards the middle of the room in double the pipe spacing that is specified (300mm for a finished spacing of 150mm). As you approach the centre you will then be able to turn back on yourself and work your way back between the pipe you have laid so that each pipe spacing is now half what you were laying it as. This system is good for tighter pipe spacings as the risk of kinking the pipe is much lower.



- Ensure that your floor is clean and free from any debris & dust.
- Use a quality SBR or Acrylic primer over your existing floor. This will ensure that a good bond is provided for the self adhesive Profix Panels.
- The Profix panels include an easy to use interlocking 'click' system. Simply engage the panels, remove the cellophane and stick the panels directly to your floor.
- Your Profix Panels include 'countersunk' holes throughout. Additional fixings may be used, if necessary, to ensure a solid installation.
- The 12mm Underfloor Heating pipe should be fitted with a maximum length of 80 linear metres.
- The levelling compound must be mixed as per the manufacturers instructions on the bag i. e. the correct water mixing ratio (20KG Bag : 3.4L)
- Levelling Compound should be poured flush with surface of the Profix Panels (15mm). When a floor finish is to be Carpet, Karndean, Luxury Vinyl Tile or any other delicate flooring we recommend increasing the Levelling compound depth to 18mm.
- Your Underfloor Heating system has been designed with the assumption that your floor has a clean, flat surface. If your floor isn't level, additional Levelling Compound may be required.
- Feel free to get in touch with us if you have any questions regarding the installation of your Profix Underfloor Heating system.



- | | | | |
|----|--|-----|---|
| 1. | Ball valves | 7. | Automatic Air vent |
| 2. | Mixing Valve Thermostatic head with remote sensor adjustable from 20°C to 70°C | 8. | Double Regulation Flowmeter |
| 3. | Flow increase Valve | 9. | 0 to 6 Bar pressure valve |
| 4. | DAB Evosta 2 40-70 Pump | 10. | Fill & drain Valves |
| 5. | Thermostatic sensor phial located in pocket | 11. | Flow Manifold Rail |
| 6. | Mixed floor temperature gauge, 0°C to 80°C | 12. | Blue Manual Caps (replaceable with Actuators) |
| | | 13. | Return Manifold Rail |

The manifold will arrive part built ready for final assembly as shown in Fig 1. Remove the manifold from its packaging.

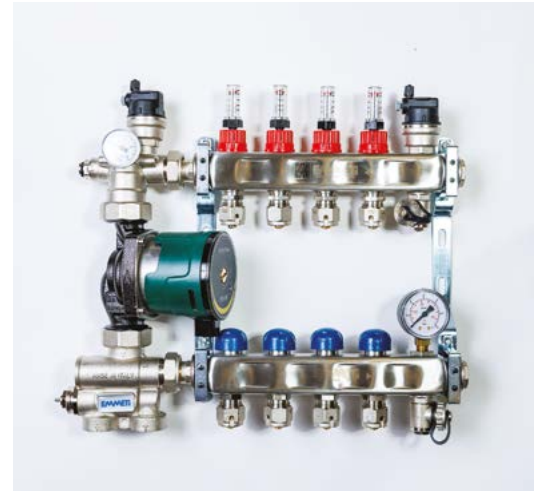


Fig.1

Rotate the pump to the forward-facing position as shown in Fig 2, then tighten the pump connections to hold the pump in place.

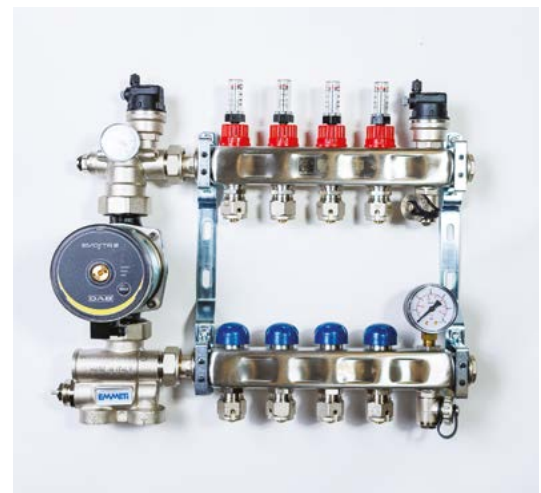


Fig.2

Finally connect the ball valves to the bottom of the manifold as shown in Fig 3 (tighten the tails into the mixer first, before the flanged nut onto the ball valve)



Fig.3

The pipework should be filled with water and pressure tested before any screeding takes place to ensure there is no damage or deformities to the pipe.

Make sure both the ball valves are closed as shown in Fig 1.

Ensure all the flowmeters are fully closed, to close the flow meter fully turn the red cap clockwise until it comes to a stop and repeat for the clear viewing tube on the top (Note, no tool should be used on the flowmeters, all parts should be adjusted by hand)

Close all the blue return caps by turning the caps clockwise as well.

Remove the cap from the top drain valve as pictured and use the square fitting on the cap to open the fill valve, repeat for the bottom drain valve. See Fig.2

Connect a garden hose pipe to the top fill valve from a tap and a section of hose to the bottom drain valve into a bucket or outside.

Starting from left to right, fully open one flowmeter by fully turning the red cap anti clockwise until it comes to a natural stop, push the red cap back down tight with the manifold body and turn the clear viewing tube anti clockwise until it comes to a stop by hand. See Fig.3



Fig.1

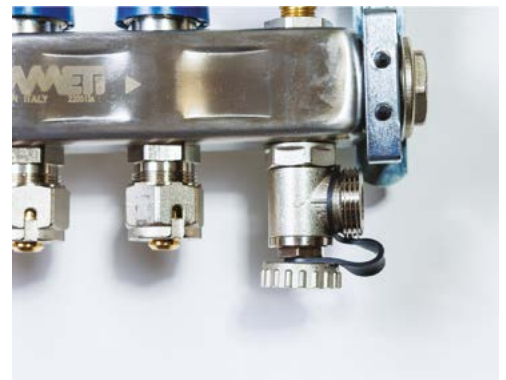


Fig.2

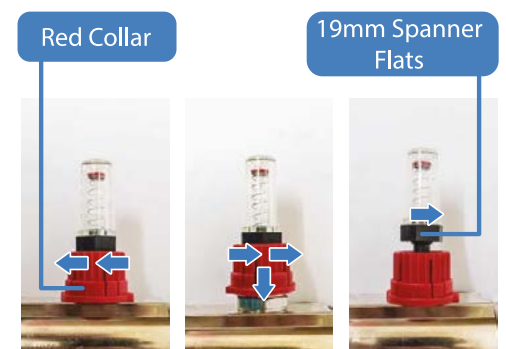


Fig.3

Turn the corresponding blue cap anti clockwise until it is either off or nearly off, the loop is now fully open.

Turn the tap on and start filling the loop, once a steady stream of water is coming out of the hose connected to the drain valve with no spurting, the water can be turned off.

Close the now filled loop by turning both parts of the flowmeter clockwise and the return cap clockwise.

Repeat steps for each loop.

After filling the final loop, close off the bottom drain valve using the cap and open all the loops.

Start filling the manifold until the pressure gauge reads 3-4 Bar, as the manifold is filling keep bleeding the air out of the auto air vents by turning the top black cap until a small amount of water comes out. Leave the grey screw tight. Once the correct pressure is achieved turn off the mains water, close the fill valve and disconnect the hose pipe. Bleed any excess air out of the pump by unscrewing the brass screw in the centre slightly until water starts to come out, then tighten it back up.

Wipe the manifold with a towel and leave for a minimum of 2 hours to see if the pressure drops. If the pressure does drop check the manifold first to see if any parts need tightening up. If the pressure remains the system is fully filled and pressurised.

The DAB Evosta 2 circulating pump has three settings but when used with an underfloor heating system you will want the pump in constant which is displayed with the symbol shown below.

To scroll through the settings, press the mode button repeatedly until the constant setting symbol is lit up with the first line below it lit as well.

The below three lines indicate the power level, to scroll through the power level you press the mode button.



Power 1



Power 2



Power 3

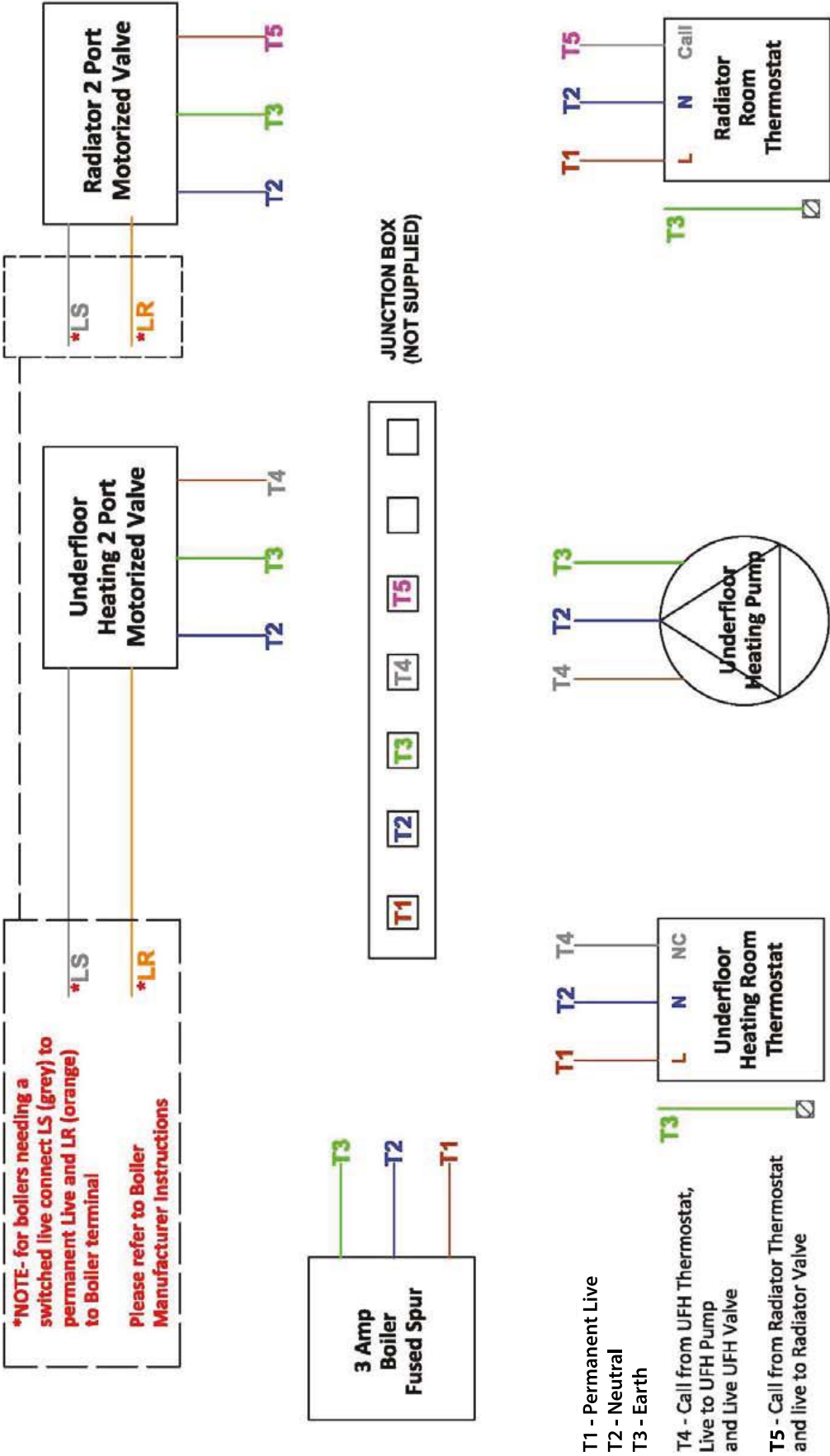
When running your system for the first time it is important to familiarise yourself with the controls.



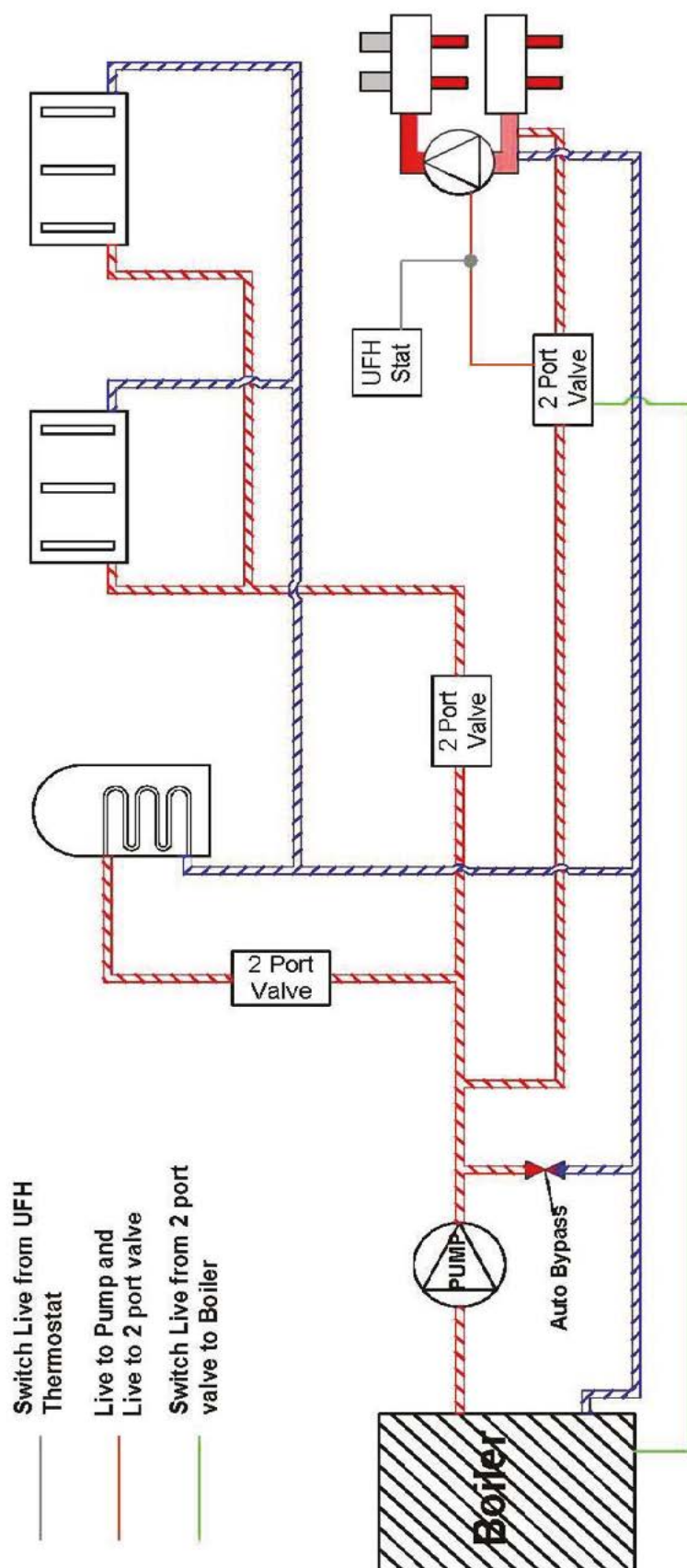
The thermostatic head, as shown in Fig 1, is used to adjust the temperature of the water running around your floor. The thermostatic head is located on the bottom elbow of the mixing unit with its copper probe inserted into the top elbow of the mixer. When you first run your system, you will want to set the thermostatic head to 25°C then increase this by a few degrees a day until you reach the optimum running temperature of 45°C – 50°C.

The digital thermostat supplied will come with full instructions on programming and running your system.

If you have any questions on your system set up, feel free to call our office and speak to our technical department.



Wiring Using 2 Port Valves (S Plan)



Schematic Plumbing Diagram Single zone on a S Plan System

7 Station Road
Mosborough
Sheffield
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OPENING TIMES:

Monday	8am – 5pm
Tuesday	8am – 5pm
Wednesday	8am – 5pm
Thursday	8am – 5pm
Friday	8am – 5pm
Saturday	Closed
Sunday	Closed
Bank Holidays	Closed



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