the underfloor heating company

APPROVED BY PROFESSIONALS

Joist

Kit Installation Guide

- Easy to Install
- For Small or Large Rooms & Multi-Rooms
- Complies to Latest Regulations
- UKCA Approved
- Lifetime Warranty

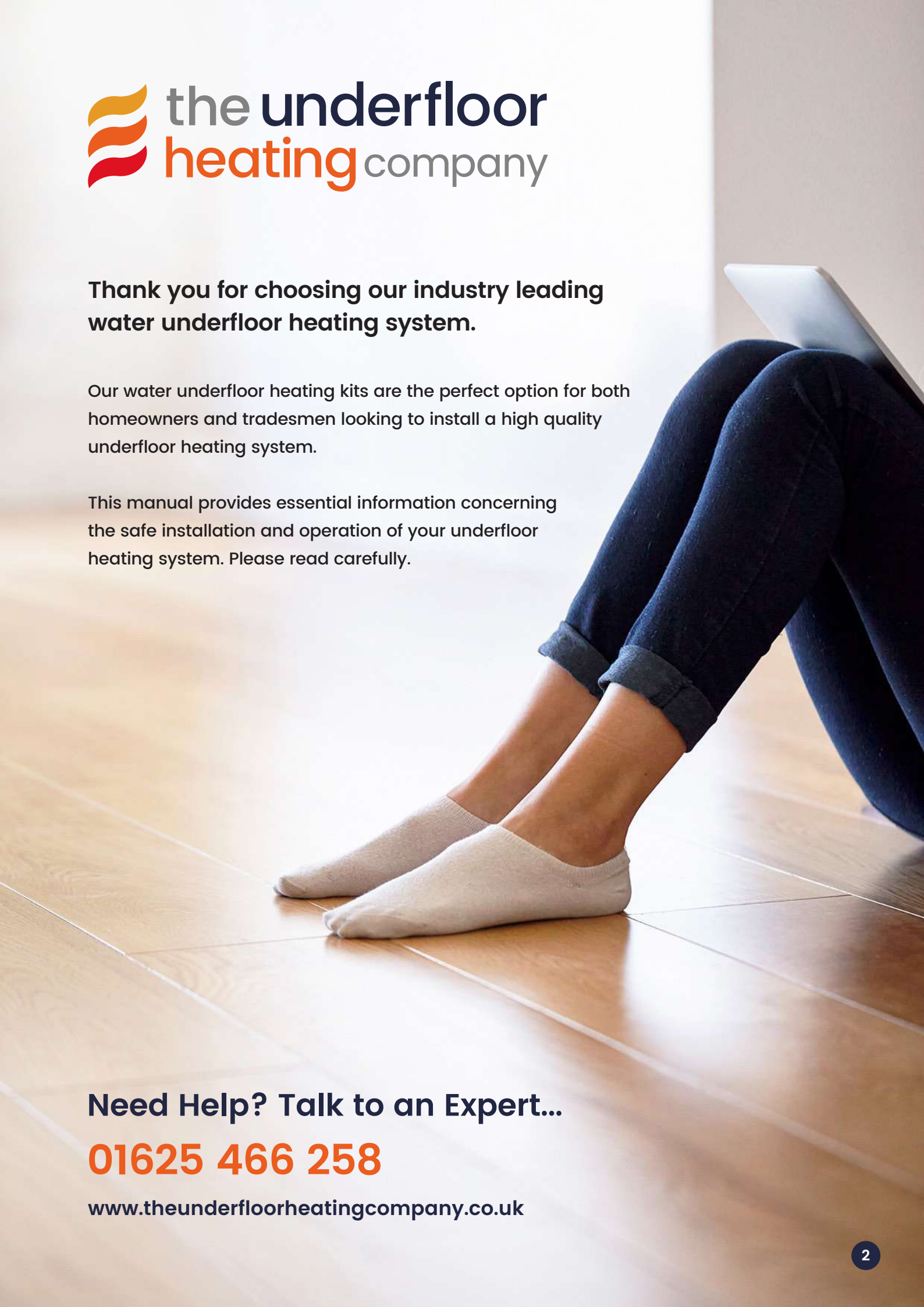
Water Kit

the underfloor heating company

Thank you for choosing our industry leading water underfloor heating system.

Our water underfloor heating kits are the perfect option for both homeowners and tradesmen looking to install a high quality underfloor heating system.

This manual provides essential information concerning the safe installation and operation of your underfloor heating system. Please read carefully.



Need Help? Talk to an Expert...

01625 466 258

www.theunderfloorheatingcompany.co.uk

Contents

Joist Kit Overview

Joist Kits require foil backed insulation fixed between joists. Pipe is then laid into heat diffusion plates which are nailed or screwed to the joists, then everything is covered by a structural deck.

Before you begin installing...

Please read through these instructions carefully and check that you have all the components required.

The Underfloor Heating Company's kits contain everything you need in one box for your project. If you need help or advice with your installation please get in touch.

Aluminium Spreader Plates are designed to fix between joists set at 400mm spacing.

- **400mm Spreader Plates** come in two options:
3 Channel giving *150mm* pipe spacing or 2 Channel giving *200mm* pipe spacing.

Pipe is laid into the preformed 'Omega' shape channels, insulation fitted below the spreader plates will ensure maximum performance from this system.

We recommend using the following items to help with your installation:

- **Hammer / Screwdriver**
- **Saw**
- **Nails**
- **Staple Gun**
- **Scissors**
- **Wire Cutters**
- **Tape Measure**
- **Eye Protection & Gloves**

UKCA Approved

All our cables meet current regulations and are compliant with Part P. Should you have any uncertainties regarding your installation do not hesitate to contact us.

Cross Section Detail

Kit Contents

Single Room Kit Contents

Included in your kit are all the components needed to build your single room underfloor heating system.

Rated Wilo Pump & Mixer

Manifold & Valves

Spreader Plates

PE-Xb-multilayer Pipe

Pipe Cutters

Pipe Rerounding Tool

Pipe Connections

Multi-Room Kit Contents

For larger rooms and multi-room systems your kit will include all of the above as well as:

Wiring Centre

Actuators

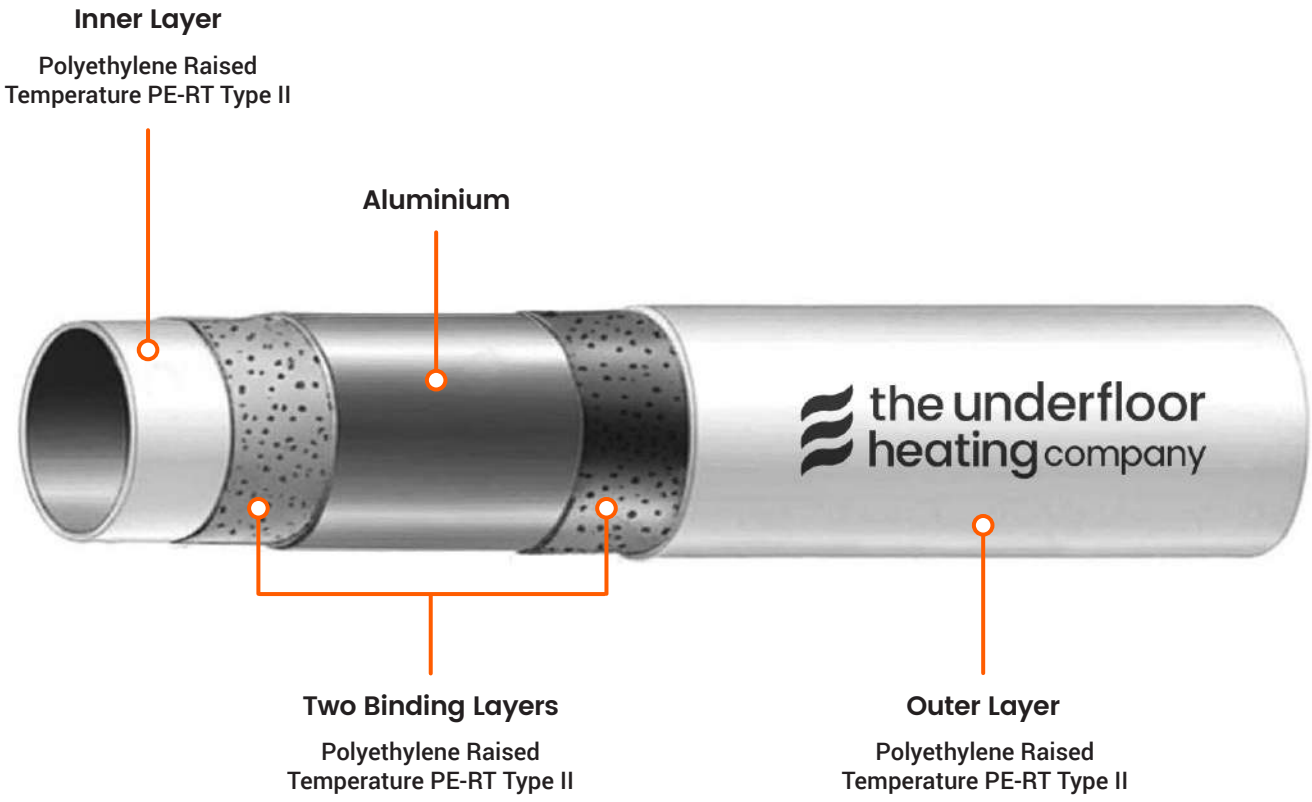
Optional Thermostat

Thermostats are NOT included in the Kit.
We have a wide range to choose from on our website.

N.B. Multiple Thermostats will be required for Multi-Room setups.

High Quality Multi Layered Pipe

We only use High Quality Multi Layered Pipe (PE-RT type II /Al/PE-RT) in all our Water Systems.



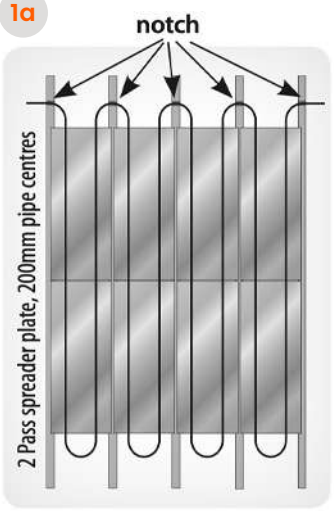
Pipe Warranty

- PE-RT type II /AL/PE-RT
- Working Pressure & Temperature 10bar, 95°C
- 100% Oxygen Impermeable
- Lifetime Warranty

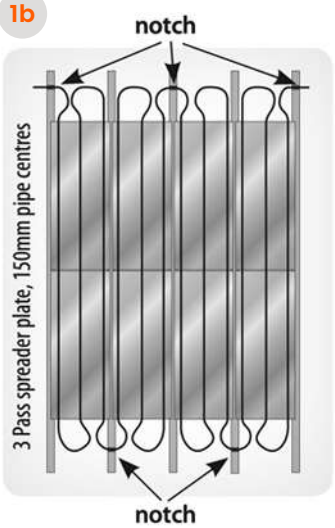
Joist & Insulation Installation

1

1a



1b



1c

Notch joists according to building regulations if permissible (1a)* or secure battens to the top of joist (1c) to allow pipe to pass between the joists allowing for bends and returns as per pipe layout (adjustment to pipe layout is acceptable on site).

If attaching battens use 18mm minimum depth to allow for pipe and ensure all fixings are secure and hammered flush. If the joists are not at standard 400mm or 600mm centres the battens can be laid at 90° across the joists.

** When installing spreader plates with 3 passes of pipe (1b), notching of joists will be required to alternate ends of the joist to allow pipes to pass between each joist.*

2

2a

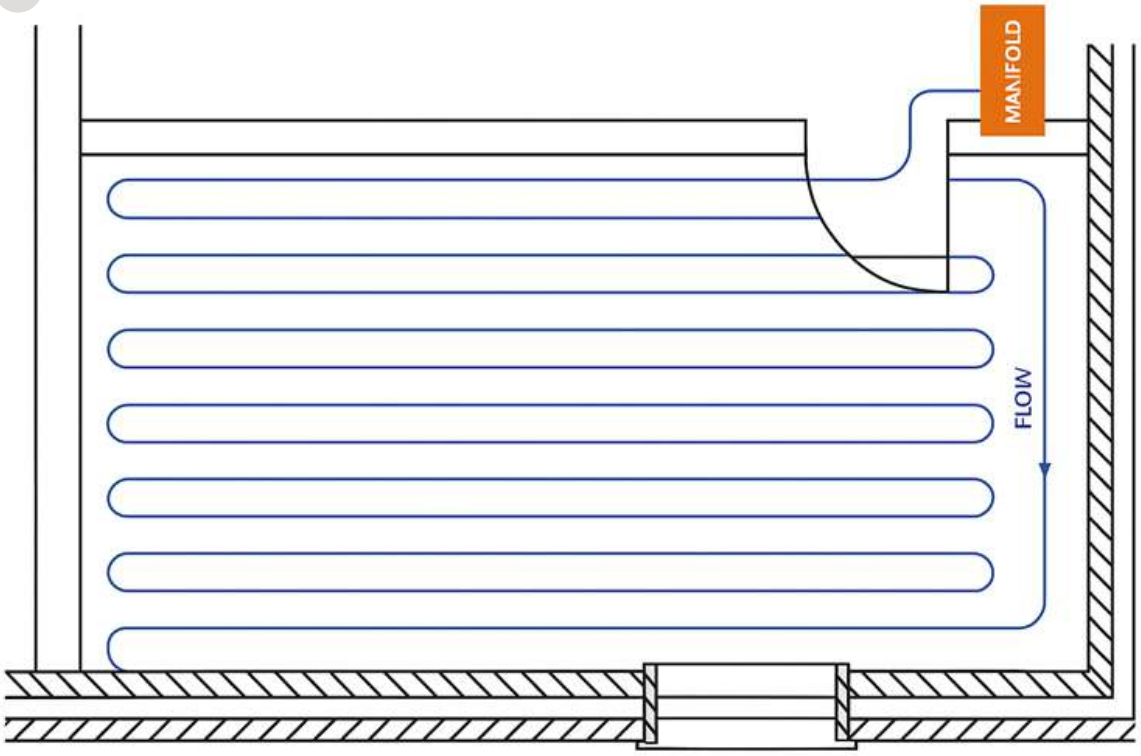
2b

Ensure adequate insulation is fitted between joists. If battening, insulation should be level with the top of the joists (2a) leaving an 18mm gap for pipe, if notching joists set the insulation 18mm below the top of the joist (2b). We advise a 50mm solid insulation board or 150mm mineral wool. Electrical wiring and other services contained in the floor construction should pass under the insulation. All other water pipes should be lagged.

Spreader Plate Installation

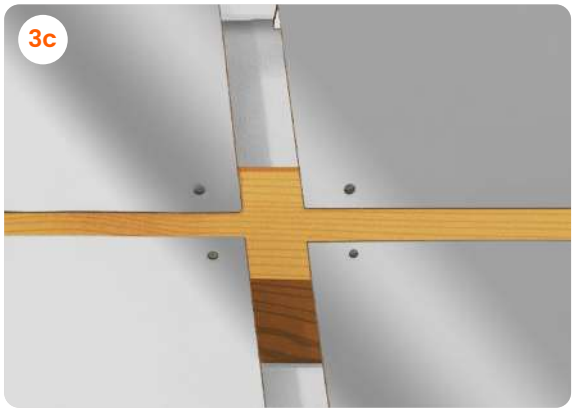
3

3a



3b

3c

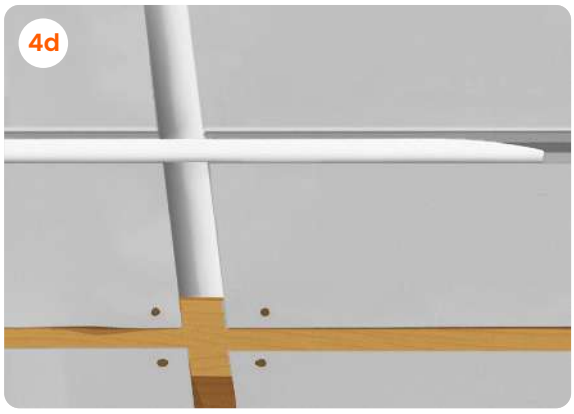


Before fitting the spreader plates study the pipe layout if supplied and familiarise yourself with the design and layout (3a).

Plan your pipe routes and spreader plate locations allowing 250mm between the end of the spreader plates and the wall (3b) to allow pipe to turn and return back into the spreader plate and 15mm between the spreader plates for expansion (3c).

Spreader Plate Installation (continued)

4



Wearing safety gloves due to sharp edges, lift the first spreader plate into place measuring 250mm from the wall (4a) and fix the spreader plate along the top of the joists using staples, nails or screws ensuring they are flush fitting (4b/c).

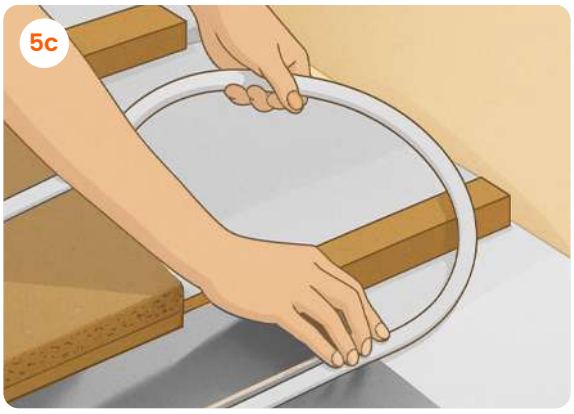
Allow a 15mm expansion gap between each plate. A good tip is to press a short length of pipe into the pipe channel to help line up the plates before fixing in place (4d).

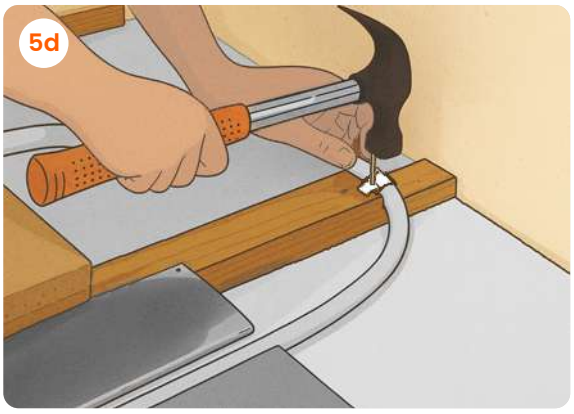
Warning

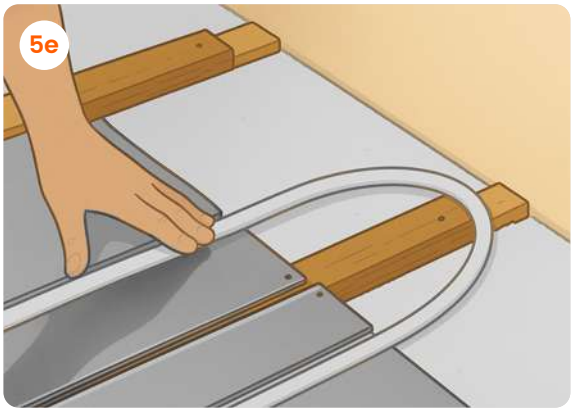
The edges and corners of aluminium spreader plates can be very sharp! Take care and wear appropriate clothing and safety gloves when handling.

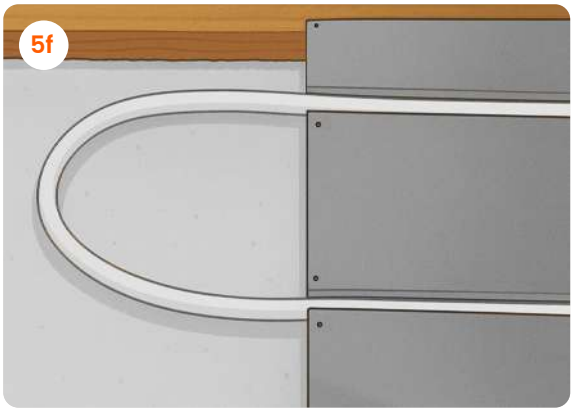
Pipe Installation

5









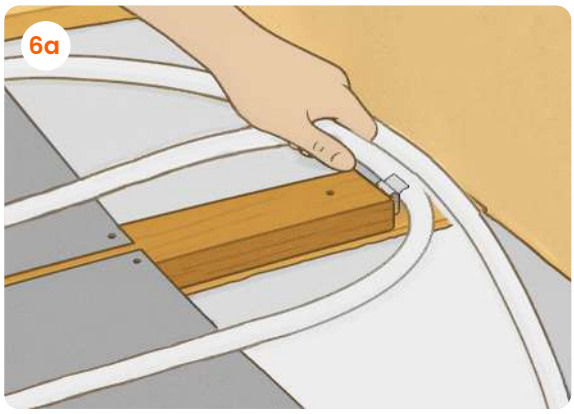
All pipe runs start and finish at the manifold, by fitting the manifold in place before laying the floor heating pipe this will give a reference point for the start and end points. Allow sufficient pipe for cutting and fitting at a later stage.

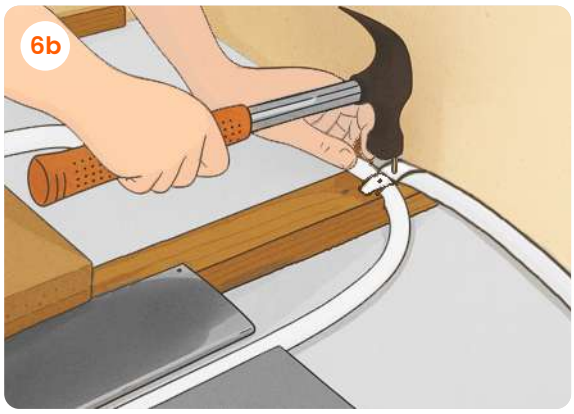
Pipe is best laid using two people, one to roll out the pipe whilst the other presses the pipe into the channels (5a/b) of the spreader plate, following pipe layout or desired routes.

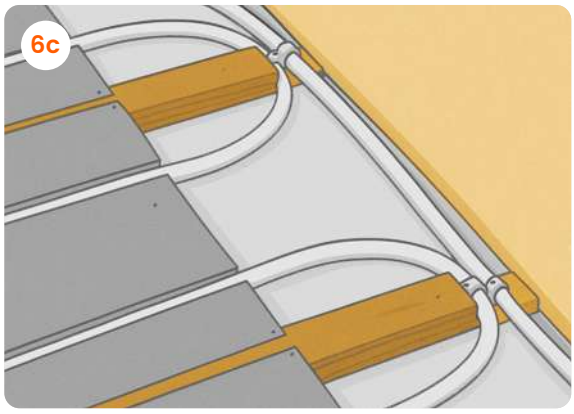
Be careful not to kink the pipe. 15mm masonry nail pipe clips can be used to secure pipes in notch (5c).

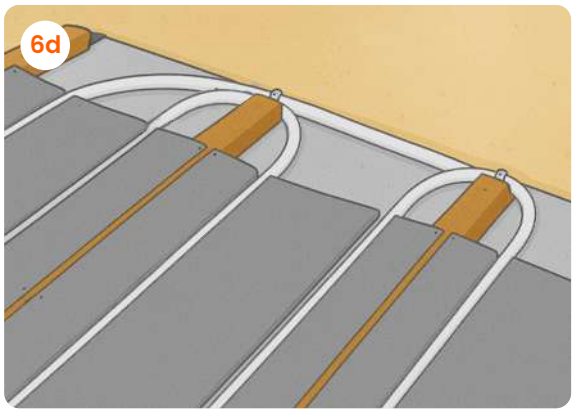
Pipe Installation (continued)

6







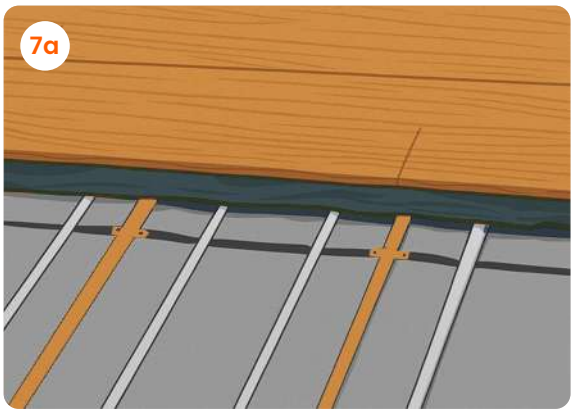


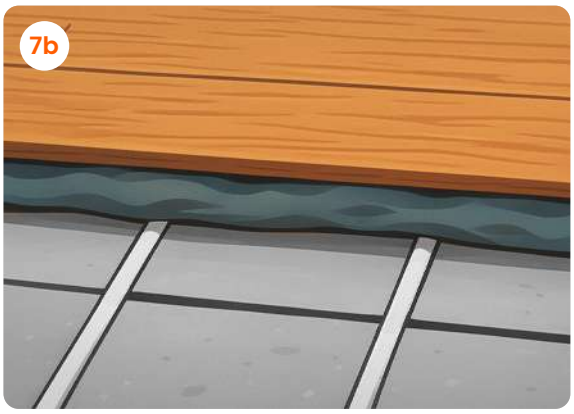
Having followed the pipe layout *(if requested)* you will reach the point of having to return the pipe to the manifold. Create your final bend and run the pipe back to the manifold using the notches/ gap in batten (6a, b, c, d).

Identify flow, return and zone of each pipe in turn using a permanent marker (6e).

Membrane Installation

7





Many flooring manufacturers i.e. solid wood/engineered board recommend the use of a damp proof membrane (DPM) if laying directly onto the joists. Please consult your flooring supplier. It is good practice to install a thin polythene sheet over the spreader plates (7a/b). This will help cut down any potential expansion noise as spreader plates warm up and cool down. This also acts as a DPM.

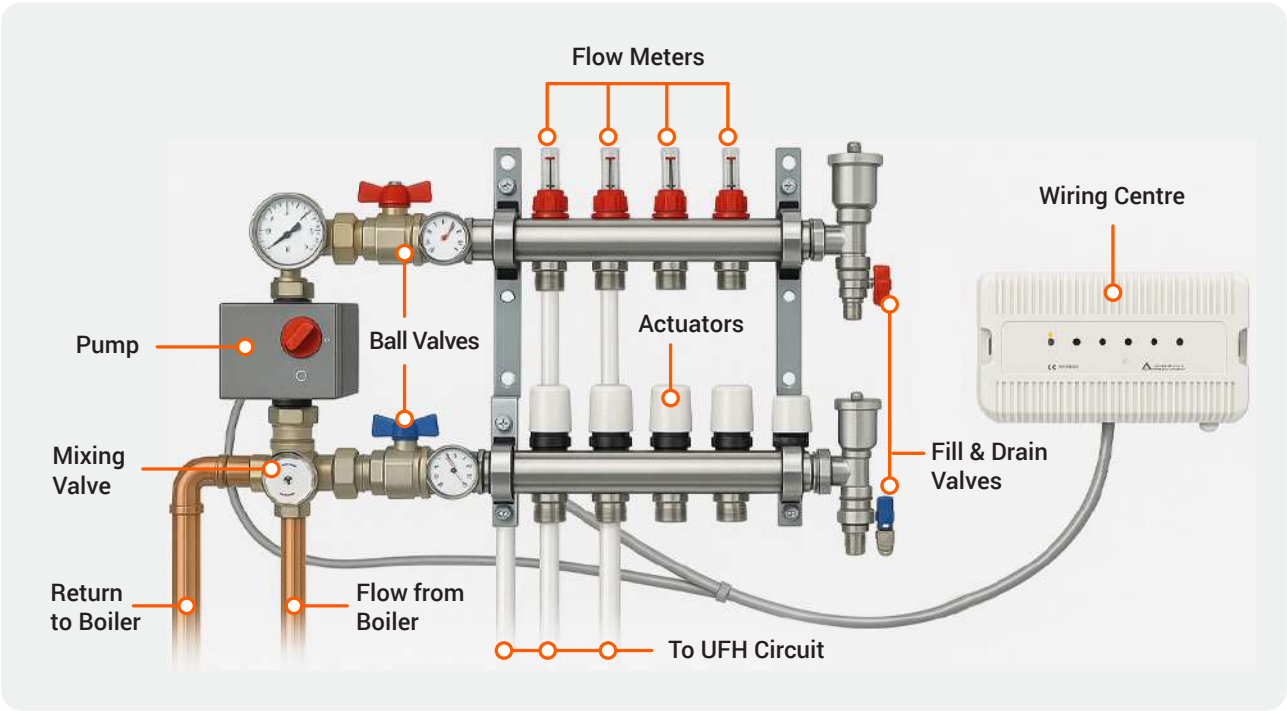
Floor Probes

Floor probes can be fitted if required to measure the temperature of the floor. Limiting floor surface temp to a maximum of 27°C by using floor probes is advisable when using wooden floor finishes.

Specialist timber suppliers should be contacted to obtain expert advice on your chosen floor finish. The addition of carpet or rugs on wooden floors can increase the temperature between the floor and carpet, check suitability with suppliers.

When mixed floor solutions are being served from the same manifold, a floor probe must be used in the floor solution with the lower maximum supply temperature. This is to limit the temperature in these floor areas and prevent damage to the floor solution and/or floor finish.

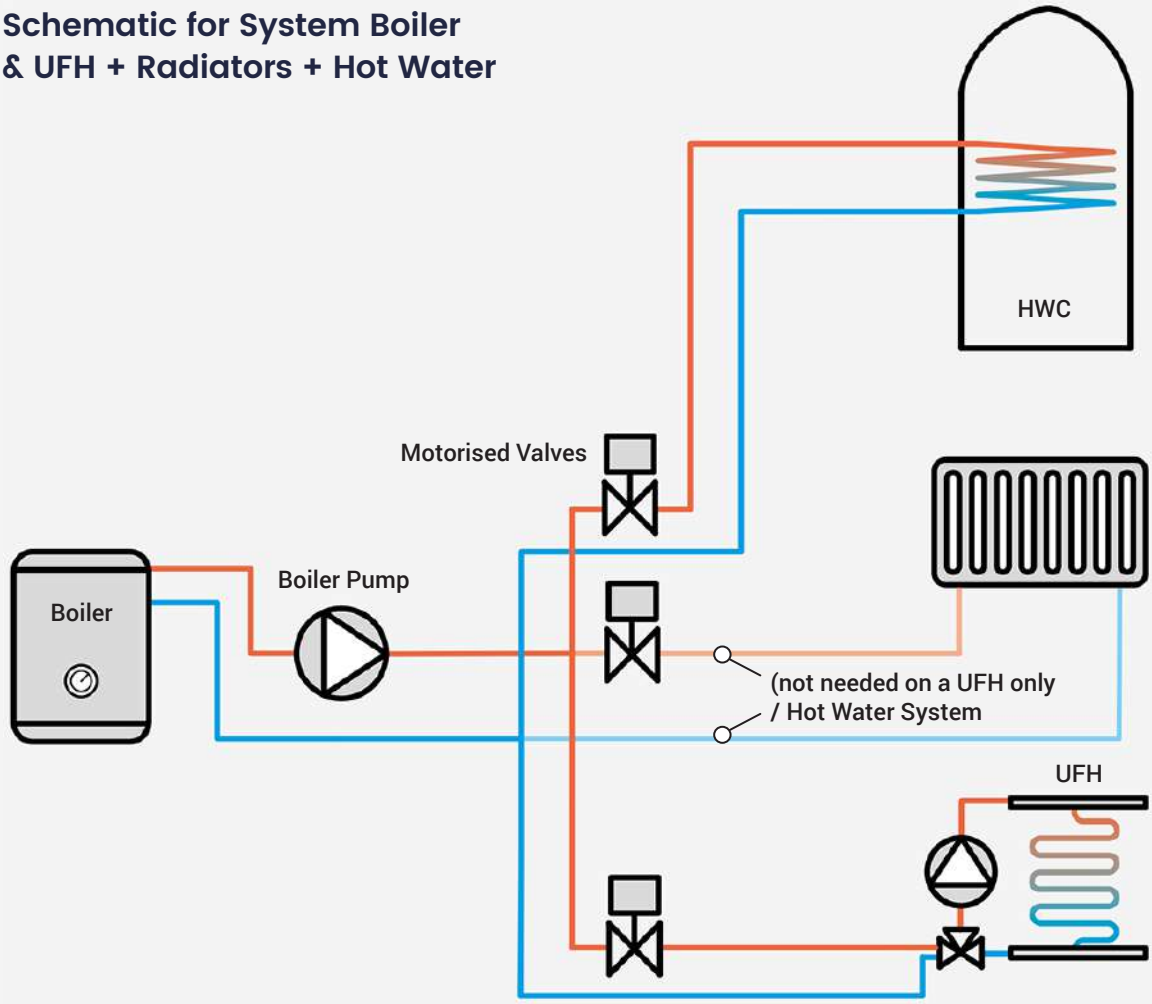
Pump & Manifold Assembly



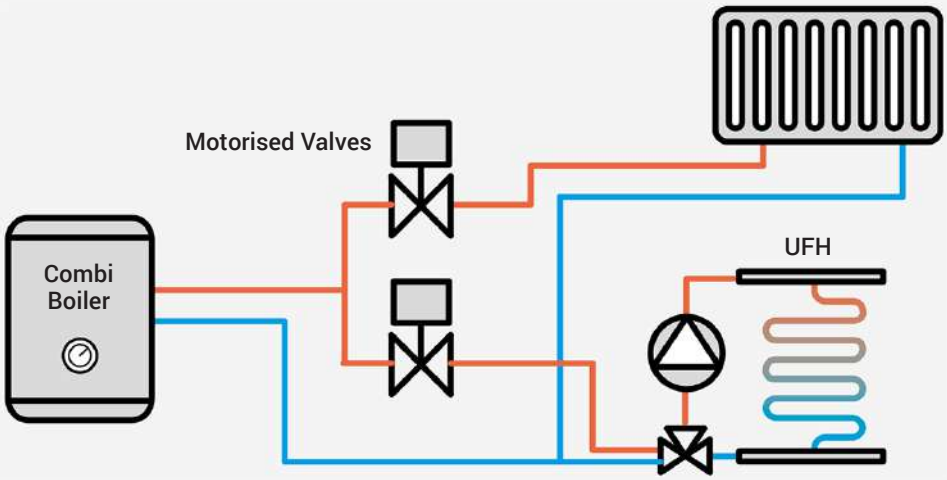
Filling the Manifold System

1. It is IMPORTANT that the underfloor heating system is properly filled with water and purged completely of air to ensure correct operation, it is therefore necessary to follow the procedure below.
2. IT IS NOT ADEQUATE TO FILL THE SYSTEM USING THE BOILER FILLING LOOP!
3. Connect a hose from a mains pressure cold water supply to the hose connection on the top (flow) manifold, and another hose from the hose connection on the bottom (return) manifold to a drain.
4. Ensure that all the black caps on the bottom (return) manifold are screwed down, closing the valves.
5. Ensure that the main flow & return ball valves are closed on the manifold.
6. Turn on the water and open the hose connection valve on the top (flow) manifold.
7. Open the first circuit valve by unscrewing the black cap allowing water to flow into the pipe.
8. Open the hose connection valve on the bottom (return manifold) allowing water to flow freely into the drain until the water is clear with no air bubbles.
9. Open the second circuit valve (black cap) and close the first.
10. Open the third circuit valve and close the second etc.
11. Continue until the last circuit has been purged and close the hose connection valve on the bottom (return) manifold before closing the last circuit valve (black cap).
12. While under pressure, check manifold & pipework for leakage.
13. Close hose connection valve on the top (flow manifold) and remove the hoses.
14. If possible pressure test the system to 6 bar for 2 hours.

Schematic for System Boiler & UFH + Radiators + Hot Water



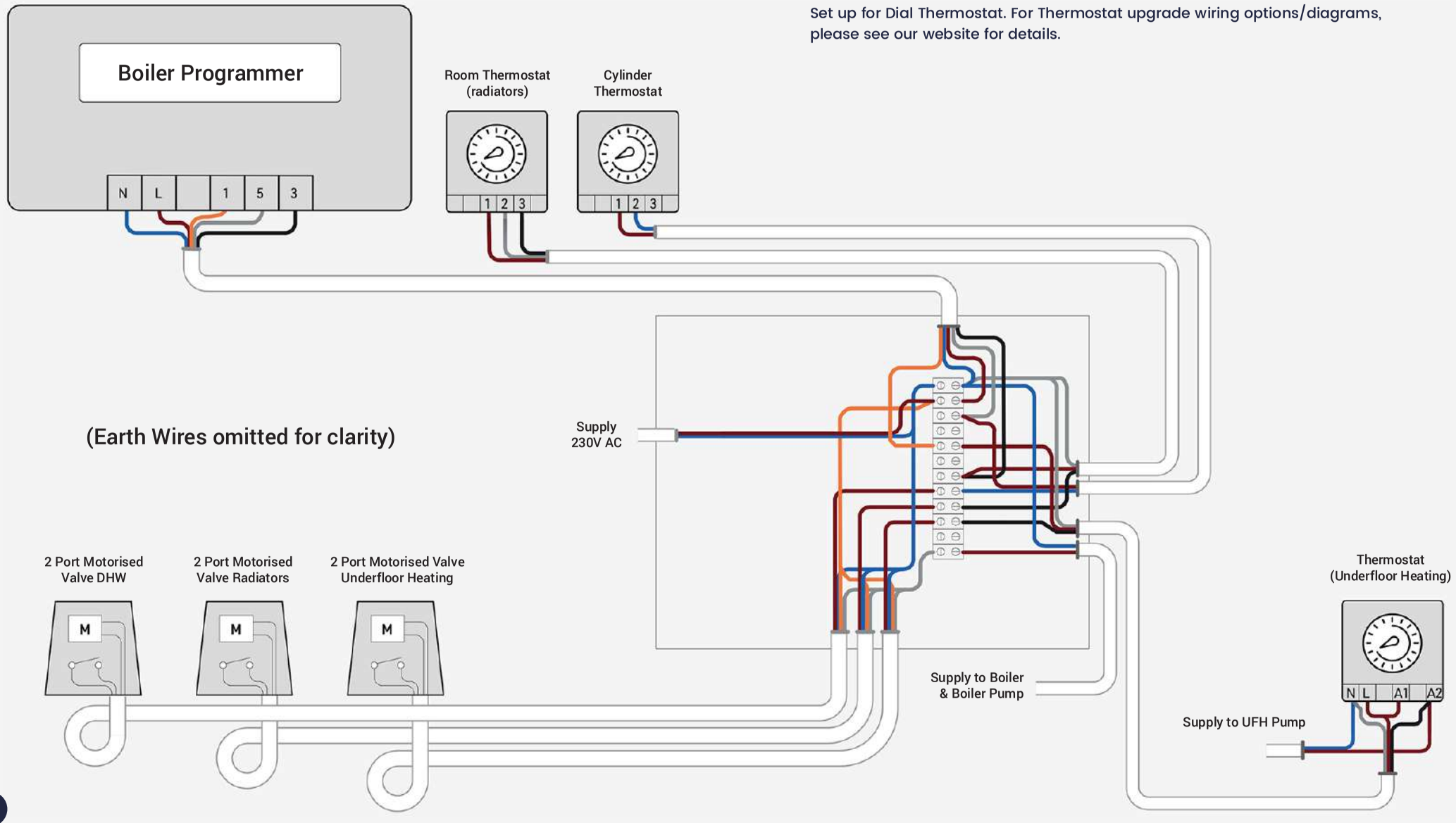
Schematic for Gas Combination Boiler & Underfloor Heating + Radiators



Boiler Electrical Connections

Single Circuit UFH + existing 'S' Plan System + System Boiler

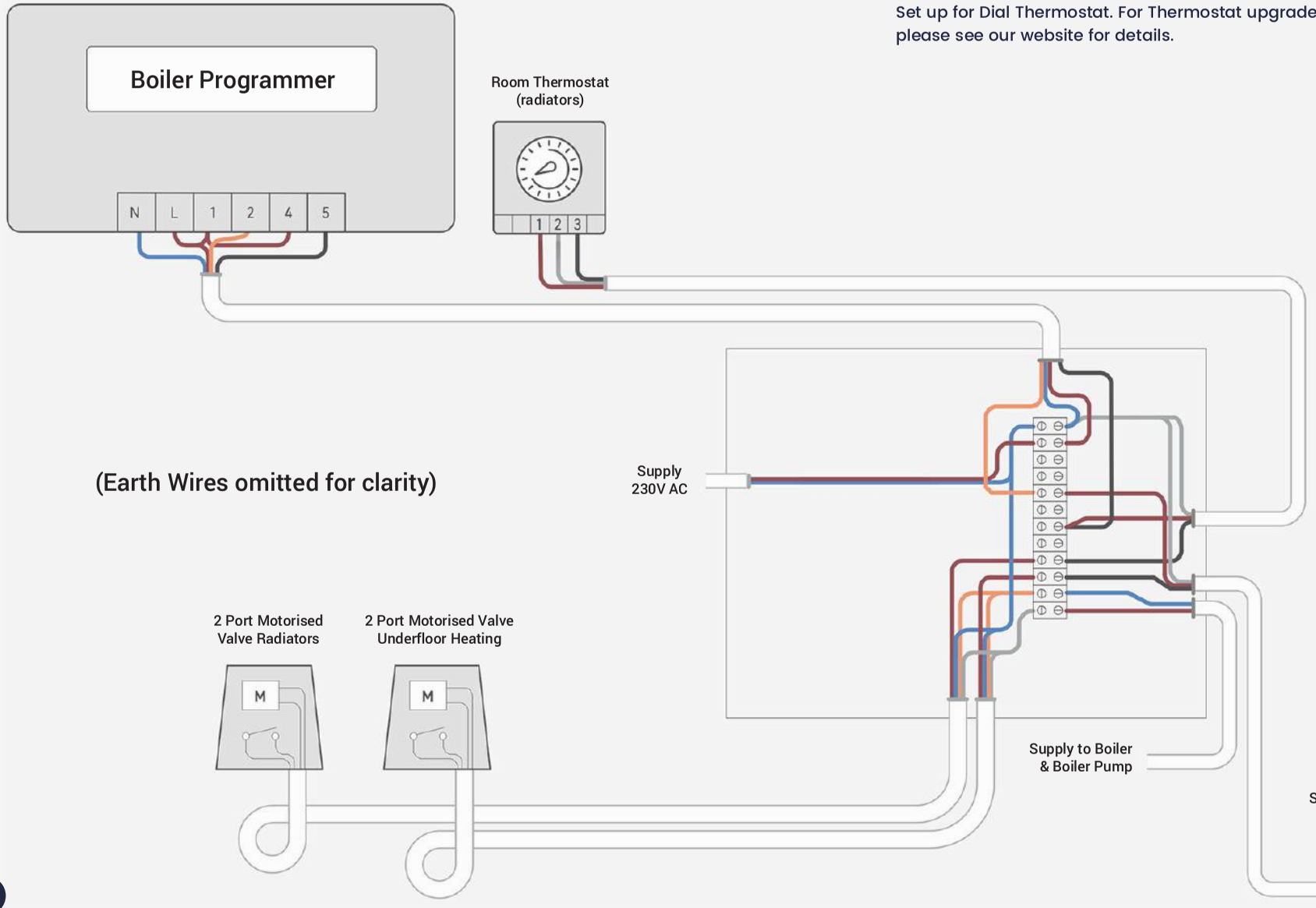
Set up for Dial Thermostat. For Thermostat upgrade wiring options/diagrams, please see our website for details.



Combi Boiler Electrical Connections

Single Circuit UFH + Radiators + Combination Boiler

Set up for Dial Thermostat. For Thermostat upgrade wiring options/diagrams, please see our website for details.



WARNING:

Exercise care when connecting to boiler connections, its important that a voltage is not applied to boiler terminals from this control system or damage to boiler may occur.

Technical Information

Maximum Heat Output	Approx 55 W/m²
Recommended Flow Temperature	45-55°C*
Maximum Loop Length	100m (16mm MLC Pipe)
Fire Properties	Meets Class 1
Environmental	Recyclable

400 Double Spreader

Thickness	0.5mm
Width	390mm
Length	1000mm
Pipe Centres	200mm

400 Triple Spreader

Thickness	0.5mm
Width	390mm
Length	1000mm
Pipe Centres	150mm

600 Triple Spreader

Thickness	0.5mm
Width	588mm
Length	1000mm
Pipe Centres	200mm

Warranty

Our Water Heating Pipes come with a Full Lifetime Warranty.

The warranty excludes coverage for installations performed by unauthorized individuals, as well as for defects resulting from improper design by third parties, misuse, damage inflicted by others, damage occurring during transit, incorrect installation, and any other subsequent damages that may arise.
If the damage is attributable to any of the aforementioned reasons, replacement will incur full charges.

Please visit website for full terms & conditions.
www.theunderfloorheatingcompany.co.uk

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Get in touch...

01625 466 258 Mon-Fri : 9am-5pm

Drop us an email, we'll get straight back to you...
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Excellent ★★★★★ Trustpilot

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