

Underfloor Heating - DIY Installation Instructions

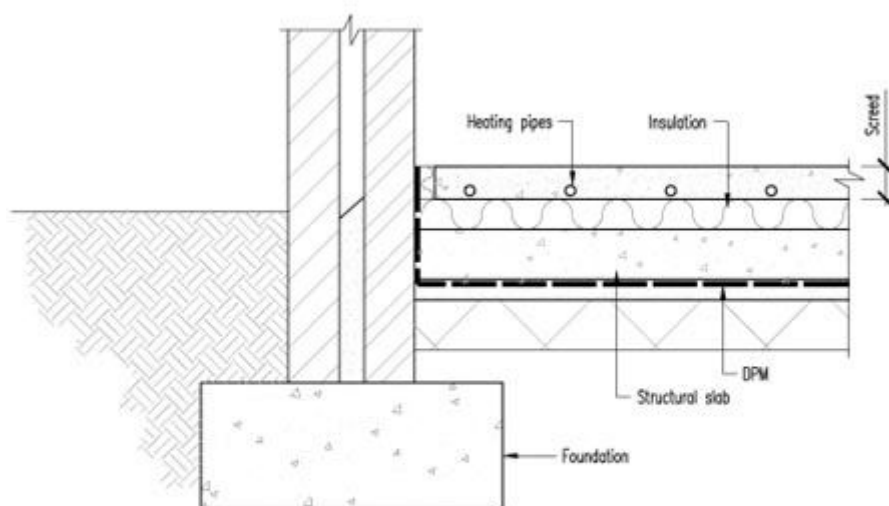
Introduction

Once you have checked your underfloor heating pack, please take some time to read this guide and study the piping and wiring diagrams.

Familiarise yourself with the various components as shown in this guide and the installation of your system will be easier to understand and carry out.

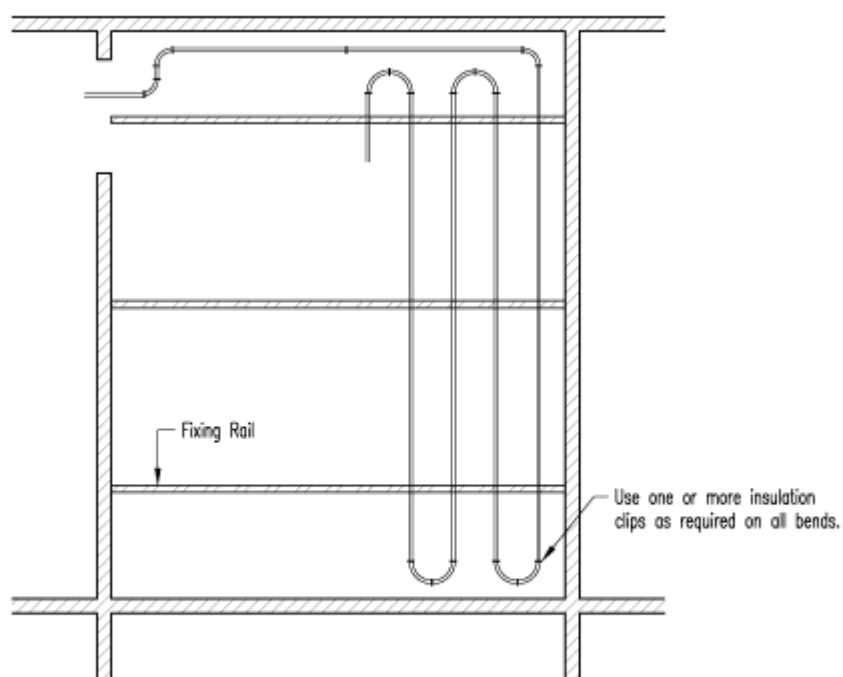
Important Points

- Please remember that it is very important that the pipe is laid as directed, the pipe layout is adhered to and the pipe is free from kinks.
- Divide the area into two sections and lay two equal circuits.
- Electrical control wiring is required, ensure that this is in place prior to finishing work is carried out.
- Flow and return pipework is required.
- The control motorized valve is directional, i.e., the flow must be in the direction of the arrow on the valve body.



Pipe Installation Within
A Screeded Floor

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Typical Fixing Rail Layout

Notes

This pack is designed to provide a heat output of up to 100w per sq m*.

Remember to allow enough pipe to connect from the room to the manifold (the packs contain a small amount of excess pipe for connections).

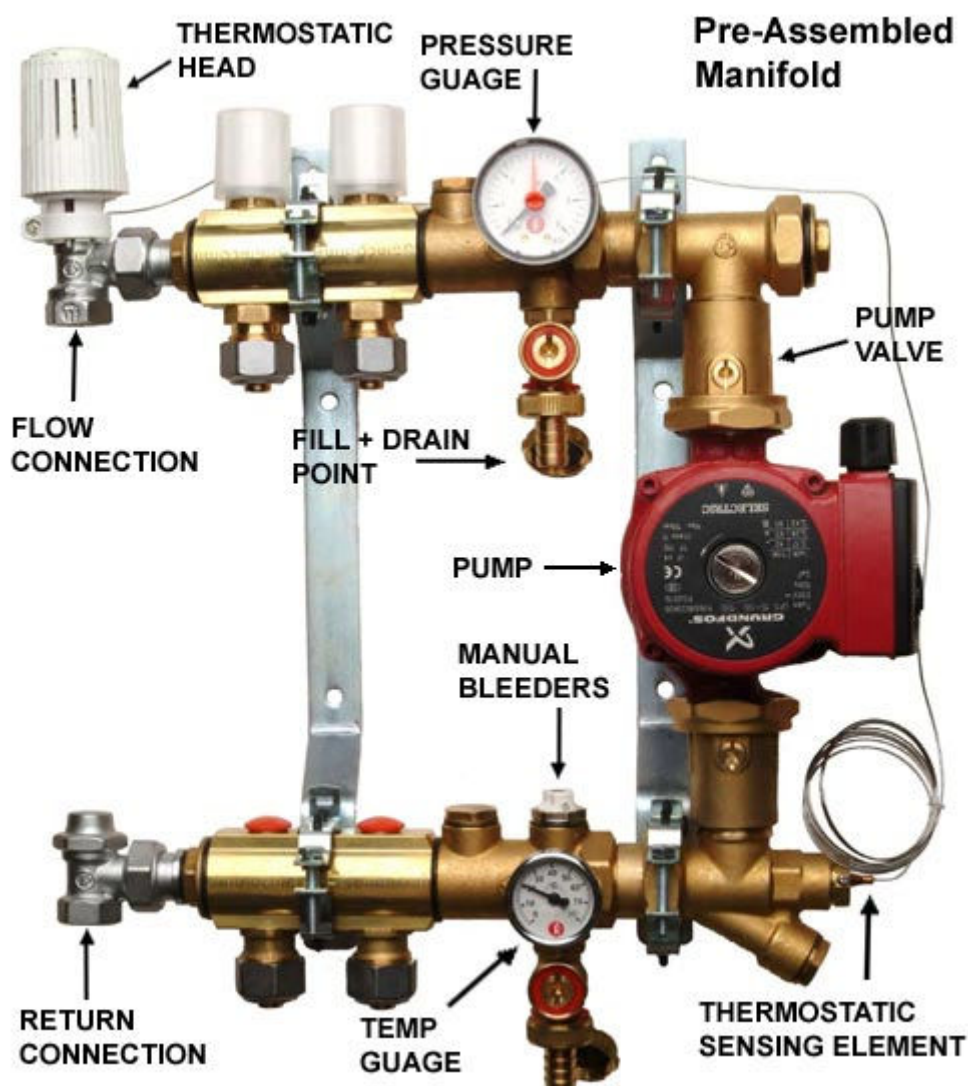
It is important to bend the pipe in a "light bulb" shape to avoid kinking, if anything less than 200mm centres are used.

Before installation please read the fitting, filling and commissioning instructions carefully. These are tried and tested to provide you with excellent results.

*Typical screed floor with a depth of 65mm.

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About the Manifold



Manual Bleeders

- Removes unwanted air from the system.

Fill and Drain Points

- Used for filling and testing.

Thermostatic Head

- Used to mix the high temperature boiler flow to the correct mixed water temperature as set on the thermostatic head.

Pump Valves

- Used when filling the system and isolating the pump.

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Fitting the Manifold

The manifold should be sited as near to the circuits as possible and fixed vertically to the wall, with the bottom section approximately 400mm above floor level.

It is a simple job to enclose the manifold on completion of the installation.

Connecting the pipe to the Manifold



The nuts, ring and inserts come attached to the manifold.

To fit the pipe

1. Remove nut, ring and insert from manifold.
2. Place nut, then ring over pipe.
3. Push insert into pipe.
4. Push made up pipe end tightly into return (top) manifold fitting.
5. Slip ring up pipe until it touches the fitting.
6. Tighten nut.
7. Lay pipe onto floor as shown in pipe lay out.
8. Connect back into flow (bottom) manifold, repeat for next circuit.

Important

Ensure pipe end has been cut square.

When tightening pipe onto manifold fittings, hold fitting with spanner whilst tightening pipe nut.

Once the pipe has been connected to the return manifold, laid according to pipe layout drawing and connected back into the corresponding flow manifold connection, it is now a complete circuit.

When all circuits are fitted and secured, take time to check over pipework and ensure the spacings are correct and there are no kinks in the pipe.

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Filling the System

Once both circuits are installed the system must be filled and pressure tested.

For this you will need mains water supply and a garden hose; follow the step by step instructions below.

- Open the fill+drain points on the flow and return manifolds (turn slot to run vertically).
- Shut flow connection by turning red cap clockwise.
- Shut return connection by turning allen key clockwise (located under cap).
- Close bottom pump valve (turn slot to run horizontal).
- Connect mains water supply to the flow (bottom) fill+drain point and another piece of hose to the return (top). The top hose pipe can be put into a bucket.
- Turn on the water. It will now enter the flow manifold and flow through the circuits until it exits the hosepipe connected to the return manifold.
- Let the water flow until all air has been purged from floor pipes.
- Open bottom pump valve to completely fill manifold and open the manual bleeders momentarily.
- Close fill+drain point on the flow manifold (top), allow pressure to rise to 3 bar and close fill+drain point.
- The system is now filled and under pressure.
- Check for leaks and note pressure. The pressure may fall slightly due to stabilization and temperature changes - if the pressure falls to zero there is a leak.
- Carry out a final check to make sure there are no kinks in the pipe circuit.
- Check pressure after 24 hours.

Study the boiler connection and wiring diagrams, and make sure that the relevant trades are given the required information.

Switching on the Floor Heating

Turn on the power and check that the clock stat is calling for heat and isolating valves are open.

The boiler, pump and manifold pump should all run.

Check that all zones can work separately (heating, hot water and underfloor heating).

Set water temperature to low (2/3) on the thermostatic head.

Slowly raise the temperature over a few days.

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Operating Instructions

There are two main elements of control for your underfloor heating:

1. The programmable clock stat.
2. The thermostatic valve.

Programmable clock stat

This stat gives you the ability to set overall time control with two different temperature settings.

As with a more conventional heating system, the first temperature setting is used to provide a comfortable living environment - typically 21°C - for the time you spend in the room.

The second setting can be used to provide a facility called NIGHT SETBACK. Night setback is where the second temperature setting is at a much lower level - typically 16°C.

Setting the clock stat to the night setback temperature will turn the boiler and pumps off until the temperature at the clock stat drops to 16°C.

The night setback stops the room from cooling right down during the night so that the room can be brought up to a comfortable working temperature quicker and more efficiently in the morning. To set the time and temperature on the clock stat refer to the user instructions provided with the stat.

Thermostatic valve

This piece of equipment is situated at the manifold and its purpose is to blend down the high temperature water from the boiler to a lower temperature suitable for underfloor heating.

The maximum temperature setting for the thermostatic valve is 65°C.

Note

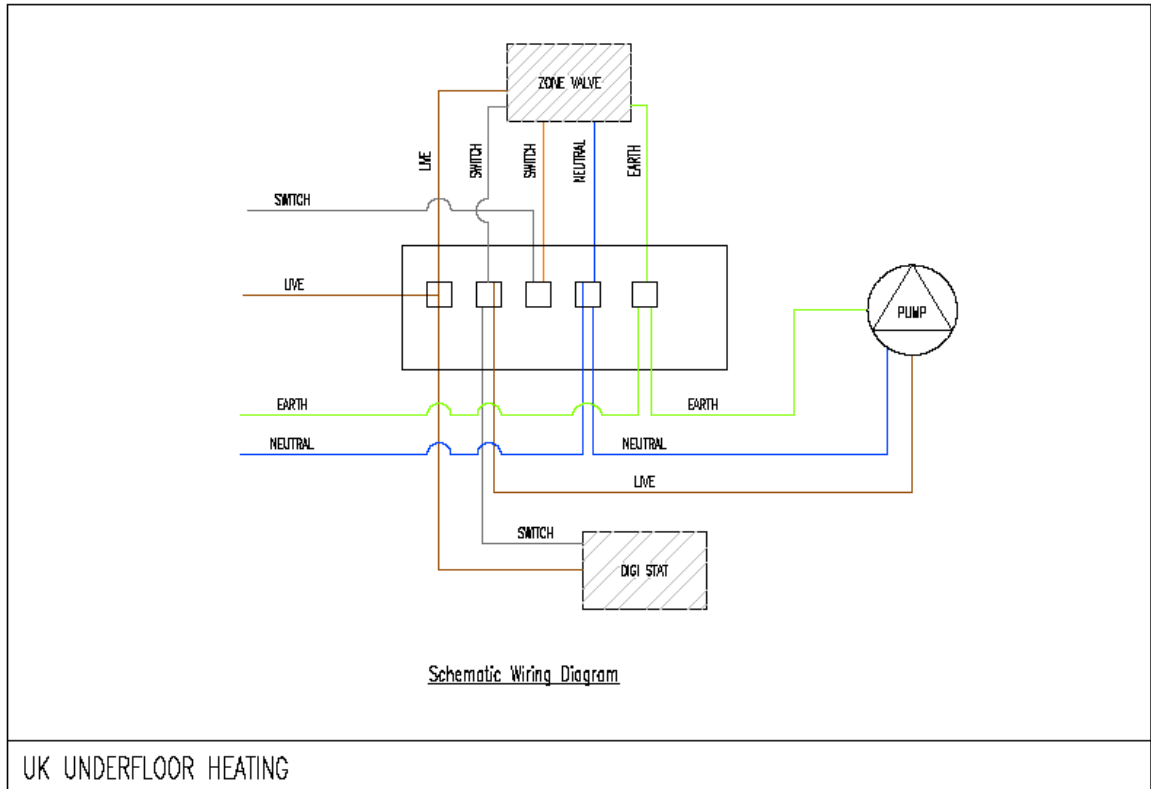
Floor heating is not a quickly responsive form of heating (like a gas fire) and can take some time to reach the desired temperature. The opposite is also true in that it takes a while for the floor to cool down.

For example, if you want the room up to temperature by 8am, set the higher temperature to 6am if you stop using at 11pm set the lower temperature setting to 9pm.

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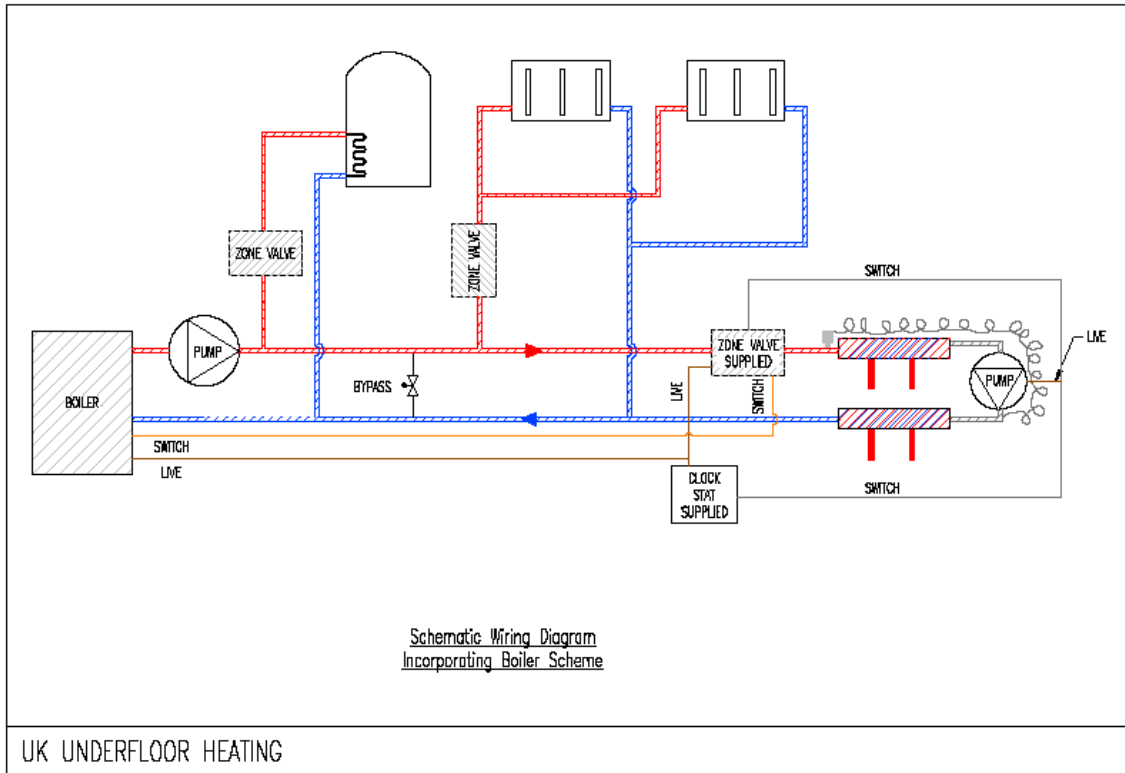
Appendix A – Technical Drawings

1. Schematic Wiring Diagram



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2. Schematic Wiring Diagram – Incorporating Boiler



3. Schematic Wiring Diagram – Without Boiler

