Contínal UNDERFLOOR HEATING

CELEBRATING 25 YEARS

Underfloor heating

User guide & Installation manual

beama

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buywithconfidence.gov.uk

Thank you from our CEO

Hello, thank you for choosing one of our underfloor heating systems.

I hope you found the Continal team super-helpful, and that everything we did exceeded your expectations. In the last 25+ years since I started the company, our aim has been to make buying underfloor heating as easy as possible for our customers.

If there's anything you think we can do better, please let me know. Your feedback ensures we provide the best possible service.

Also, please tell me if someone has gone the extra mile for you - it's really rewarding for the team to know that they're doing well. My direct email address is below, please don't hesitate to contact me.

Thanks again

Chris Ingram
Founder and CEO
Continal Group Ltd
chris@continal.co.uk

Continal
UNDERFLOOR HEATING

★★★★★

I have used this company many times

I have a single point of contact which is great. The products are best quality and they are always very helpful. Thanks as always!

★★★★★

Excellent service would recommend

This was my first time using underfloor heating and I was a bit sceptical. But Continal explained everything to me and really took the time to talk about my project.

Excellent service would recommend to anyone look to Install underfloor heating. Thanks guys!

★★★★★

I put in a UFH system in about 2007

I ordered the parts and put it in myself as a non-specialist.

The installation went well and I have had no trouble with the system since.

Where Continal really impressed me is with their customer service. I had a good, patient POC when I was doing the ordering and installation. Recently I had to contact them for some paperwork that I really didn't think they would have. Despite there being a 13 year gap since I last dealt with them they were able to help me out within hours. Genuinely astonishing.

I would certainly use them if I ever laid this sort of UFH system again. Customer service is everything, thoroughly recommended.

Contents

Introduction

Thank you for your purchase of a Continal® system. The Continal® system uses components of the highest quality, manufactured to exceed European and British standards, and chosen for their proven reliability. This means you will get a system that does what it promises, ensures peace of mind, and provides long-term efficiency.

By choosing a Continal® system you can be assured of a comprehensive package, backed up with lifetime technical support. These instructions will take you through the installation of your system. If you have any questions, simply call us on 01566 772 322 between 8am and 5pm Monday to Friday (excl Bank Holidays) or email info@continal.co.uk. We're here to help at every stage of the project.

The system

Your Continal® system is delivered in boxes and coils of pipe. These should be carefully opened in a clean, dry area, and care should be taken to ensure that no item gets dropped or damaged during unpacking.

If you are storing the system before installation, ensure that it is kept in a secure, dry, and weatherproof area, out of direct sunlight.

Quantities vary between systems, and some items may not be used for your system. Refer to your delivery note for exact details of what has been delivered. Note that the item quantities detailed in our quotation document may vary from what is actually supplied.

Items may come with their own separate instructions and notes. You need to keep these in a safe place because you may need to refer to them at a later stage.

Items that are not supplied

The following list of items is not part of the Continal® system. We supply all the specialist parts needed to make the system work. We do not supply:

- Heat source, system pumps, and expansion vessels
- Bypass valves
- Flow and return pipework between the boiler and manifold
- System programmers or time switches
- Zone valves
- Anything related to domestic hot water
- Radiators and towel rails
- Insulation
- Screed
- Mesh
- Electrical cable for wiring between thermostats and the manifold, and the manifold to the programmer and boiler

Warranty information

All our products are manufactured according to our specifications and our design, in specialised factories that we have trusted for many years. All products meet (and often exceed) current European standards and are rigorously tested.

With over 25 years of experience and tens of thousands of systems sold, we are confident that you will be satisfied with the quality and performance of our systems.

We do not believe in complex warranties with long paragraphs - we prefer to simplify things.

Guarantee 20 Year / Ans Jahre Garanzia Garantie

Floor heating pipe, panels, fitting systems, manifolds, valves, adapters, mixing systems and water controls are guaranteed for 20 years.

Guarantee 5 Year / Ans Jahre Garanzia Garantie

Our full ENGO controls range and all circulation pumps are guaranteed for 5 years.

Guarantee 10 Year / Ans Jahre Garanzia Garantie

Our underfloor heating pipe also benefits from a 10-year insurance guarantee, which covers manufacturing defects.

Guarantee 2 Year / Ans Jahre Garanzia Garantie

Our full Heatmiser controls range are guaranteed for 2 years.

We warrant that these products are free from defects for the period indicated above, provided they have been installed and used in accordance with our system design and installation instructions. We will refund or replace items according to our judgment.

Refund of return / delivery charges in case of manufacturing defect.

We expect you to provide us with all the information we need, such as photos, to help us evaluate the return request. In some cases, we will need to send the article for testing.

Warranty claims must be notified to us in writing by email at guarantee@continal.co.uk, or by phone at 01566 772 322. Our terms and conditions of sale apply.

User guide

The following guide is intended for the homeowner and covers typical system information, troubleshooting and maintenance.

For further advice, please contact your UFH Expert.

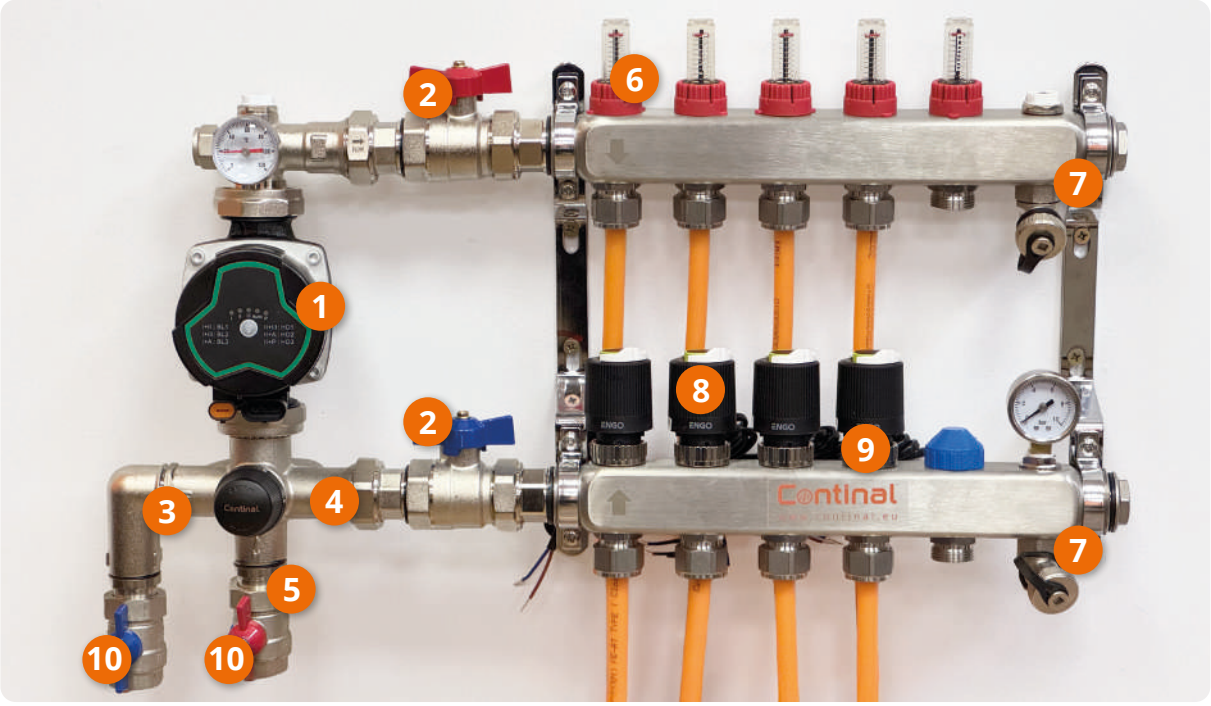
Introduction

This guide is to help you (the home owner or occupier) identify the visible parts of your Continal® Underfloor Heating system, understand the function of each part, and identify replacement or service needs.

Your Continal® Underfloor system has been designed and commissioned by the installer to work in the most efficient way, and therefore should only be altered by a competent person or the installer.

Your system

By choosing a Continal® system you can be assured of a comprehensive package, backed up with lifetime technical support. These instructions will take you through the installation of your system. If you have any questions, simply call us on 01566 772 322 between 8am and 5pm Monday to Friday (excl Bank Holidays) or email info@continal.co.uk. We're here to help at every stage of the project.



Continal® manifold components

1. Pumpset
2. Manifold isolation valves
3. Return to heat source
4. Thermostatic mixing valve (high-temp heat source only)
5. Flow from heat source
6. Flow meters
7. End set (bleed valve, isolation tap and fill point)
8. Actuator head
9. Return valve
10. Primary isolation valves (optional)

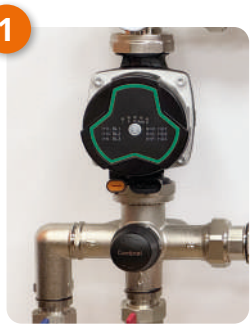
Continal® manifold components

Pumpset

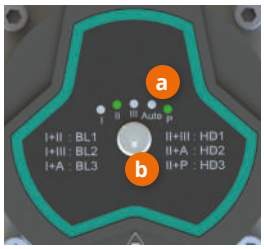
The Continal® pumpset is connected directly onto the manifold.

The pumps should never be run without a constant water supply within the system.

1



Control panel & LED display



a. Display of current characteristic curve or fault code
b. Operating mode button

Operating mode button function

- Press the operating button (b) 6 times until the lights II and P are illuminated

Isolation valves

These valves isolate the underfloor system from the rest of the heating system. These should always be in the open (online) position. Should there be a leak on the manifold or connections for any reason, turn off the UFH and turn the valve heads 90° to isolate the system. Contact your installer.

2

Thermostatic mixing valve

On high temperature systems (gas and oil boilers etc.), your system will have a thermostatic mixing valve to control the water temperature to the underfloor heating system. This is set during the commissioning of the system to correspond to the design of your system.

This should not be adjusted further without consulting us or your installer.

4

Contínal® manifold components

Flow meters

These show the flow rate through each circuit. The rates will be different on each, and are balanced during commissioning to maximise performance and efficiency.

The flow rate is adjusted from the corresponding flow meter. Any adjustments should be made by an installer.

The flow meters may become discoloured after a while. They can be cleaned or replaced; however, notify your installer, as you may need to have corrosion inhibitor added to the system on the next service.

6

End sets

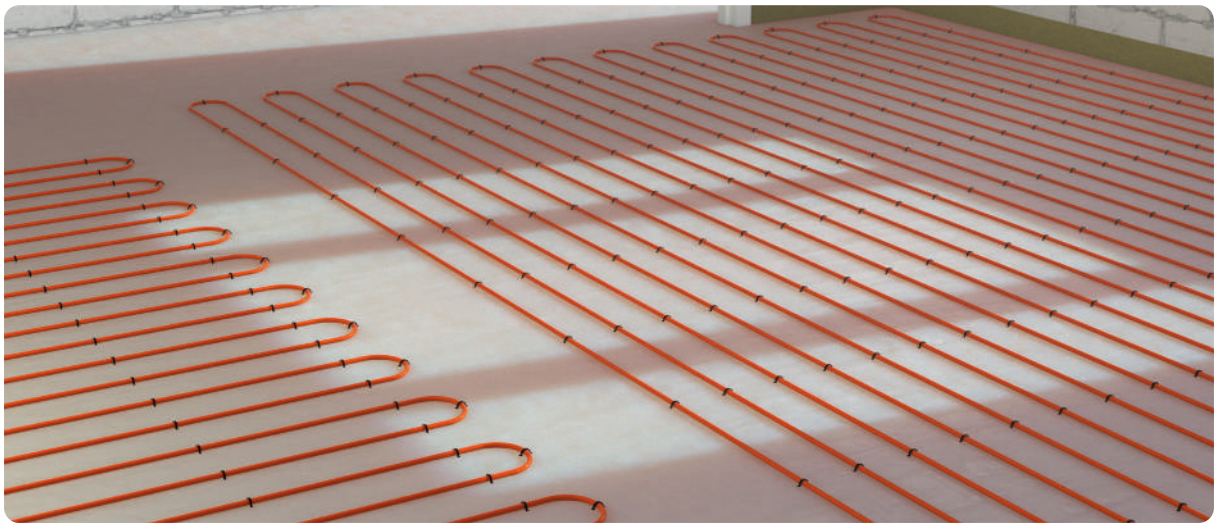
This is where the system can be both filled and vented. The isolation valve allows water to be input or drained from the manifold during repair or maintenance. Any air in the manifold can be bled using a radiator key, in the same way as you would bleed a radiator. This can only be done when the system is not in operation.

7

Manifold actuators

These respond to the demand from a thermostat in the room served by the pipe loop. They open on demand to allow water flow, and then close when satisfied or not required. The status (open or closed) is shown by the indicator on top of the valve, rising or falling back to be flush with the top of the actuator. The operation takes a couple of minutes, and the open and close does not happen instantly.

8



ENGO controls range

ENGO is our comprehensive range of full-function controls, designed to provide seamless integration from the thermostat to the wiring centre. Each room or control zone features its own thermostat, offering precise control over temperature or time and temperature.

Identify your ENGO model from the options shown below:

EONE / EONEBAT

E25 / E25BAT

ESIMPLE

EGATEPRO

ECB62-ZB

E30NC-230

UFH5

UFH10

Scan me or **click here** for our full installation and operating manuals

Heatmiser controls

Heatmiser offers a versatile range of advanced controls, ensuring effortless integration from the thermostat to the wiring centre. Each room or control zone is equipped with its own thermostat, enabling independent management of temperature or time and temperature.

Find your Heatmiser model from the options displayed below:

neoStat V2

neoAir V3

neoWiFi

UH4

UH8

UH8-RF V2

neoHub

neoPlug

Scan me or **click here** for our full installation and operating manuals

User system health check

Your underfloor heating system requires little in the way of service or maintenance, however it may be advisable to visually check the manifold and the operation of the system before the start of a new heating season or if the system hasn't been used for a while. A good time is prior to your annual boiler service so any concerns you have can be conveyed to the service engineer.

Manifold assembly visual check

1. Check all visible pipe and component connections for any signs of leakage or discolouration due to historical leaks
2. Check that all wiring and pipework remains tidy and properly clipped
3. Check the condition of the actuators and wiring centre, including any discolouration
4. Check flow meter for damage or discolouration

Operational check

Following the visual check at the Contínal® manifold assembly, you can also perform an operational check. This is more effective if carried out one room at a time.

1. Turn up the thermostat so that the LED on the thermostat becomes illuminated or the heat symbol is displayed on the screen (depending on which type you have)
2. At the manifold, you should see the corresponding LED indicator shown on the wiring centre
3. The underfloor heating pumpset should now start up and the LED on the pumpset should be green
4. After a short time you should see the corresponding actuator(s) start to open (the top section should start to rise)
5. The flow meters on the corresponding pipe loop(s) should now indicate that water is flowing through the circuits
6. Check each room in turn, then all together. This will show you that the system is operating normally

How to bleed your UFH system

1. Turn up all of the thermostats
2. Manually open the zone actuators
3. Ensure the ball valves are open
4. Open all of the zone valves fully
5. Turn on the power to your boiler and heating system and run the system
6. Bleed the air from the top Contínal® manifold end set and any other bleed points on your heating system (e.g. attached radiators or towel rails)
7. When all the air is bled, turn off the system and close all the air bleed valves

Commissioning sign off form

This form is to be completed by the installer.

	Room name	Manifold A	Manifold B	Manifold C	Manifold D
Zone 1 (left)					
Zone 2					
Zone 3					
Zone 4					
Zone 5					
Zone 6					
Zone 7					
Zone 8					
Zone 9					
Zone 10					
Zone 11					
Zone 12 (right)					

Installer: **Date:**

Notes

Installation manual

Before commencing any work, ensure you have read this document in full and understood everything it contains. Failure to install and commission the system properly and in accordance with this document will invalidate some (or all) of the warranties and guarantees.

Important information

The warnings and cautions below have been provided in the interests of safety. You must read them carefully before installing or using the Continal® system.

If any items are missing or damaged, you must contact your UFH Expert within 7 days of delivery. You must also retain any damaged packaging. We reserve the right to charge the full replacement cost for any missing or damaged items notified after this period, or where the packaging has not been retained for inspection by us.

Warnings and cautions

In general

1. A qualified professional must carry out any plumbing / electrical work required to install this system. All work must be in accordance with current regulations
2. It is dangerous to alter the specification or attempt to modify this system in any way
3. Do not pre-cut the UFH pipe to the lengths specified on the CAD plan because variances between site and plans can always occur
4. Do not turn on the control system until the system is filled to ensure the pump never runs dry
5. You must check what guidance your floor manufacturer gives on UFH. If their instructions vary from what is detailed here please contact us immediately for advice
6. There are no user-serviceable parts within the manifold controller, zone actuators, or thermostats supplied with a Continal® system. Any repairs should be referred to Continal® by a qualified trades person in the first instance
7. When working on the electrical fittings, ensure that all power supplies are disconnected and work is carried out by a professional in accordance with current regulations

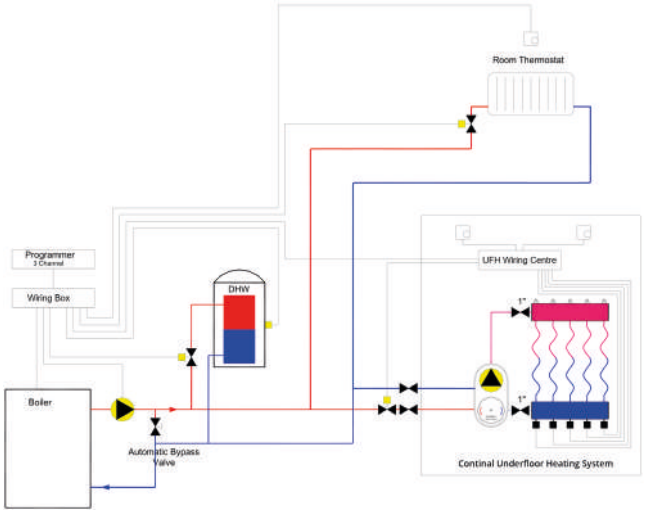
Screed systems

1. When using liquid screeds, ensure 3 fixings per metre are used to avoid pipes floating in the screed. Wherever a screed is above insulation, a slip layer must be fitted between the insulation and screed to protect the insulation from possible corrosion
2. You must pressure test the UFH pipe with water prior to laying screed, dry mix or flooring to 6 bar for at least 1 hour. This pressure should be maintained while any screed or flooring is being laid. Failure to do so can result in costly repairs if the pipe has been damaged during installation
3. Do not turn on the control system until the system is filled to ensure the pump never runs dry. You must check what guidance your floor manufacturer gives on UFH. If their instructions vary from what is detailed here please contact us for advice
4. Allow the screed to cure fully before running heated water through the pipe, otherwise cracking and screed failure can result. When heating new screeds always heat them gently. Start at minimum on the mixing valve and increase the temperature by 5°C daily until normal operating temperature is reached and the screed has fully dried
5. Under no circumstances should you use the UFH system to speed up the curing time of the screed
6. During screed drying, the room will not receive any heat from the floor until the screed is totally dry. You can use the UFH system to help dry out the screed and slab but you must allow them to fully cure first for a minimum of 28 days

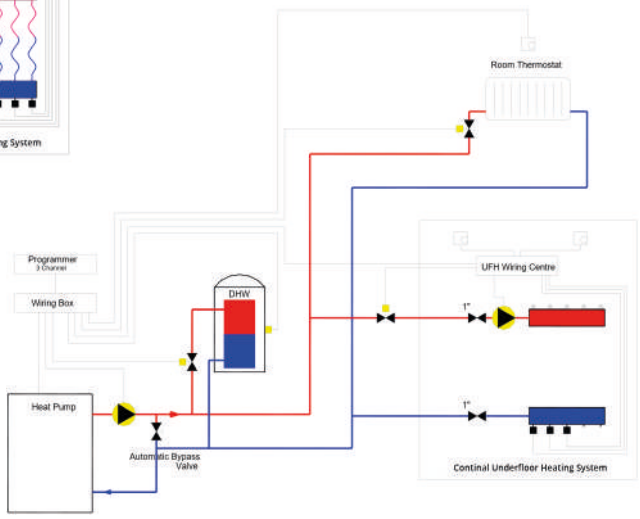
Typical system schematics

The Continal® system is designed to be simple to add to an existing heating system. It can be combined with radiators and / or towel rails, and it needs no special boiler or heat store. The following schematics indicate how you may link the Continal® system to your boiler and heating system.

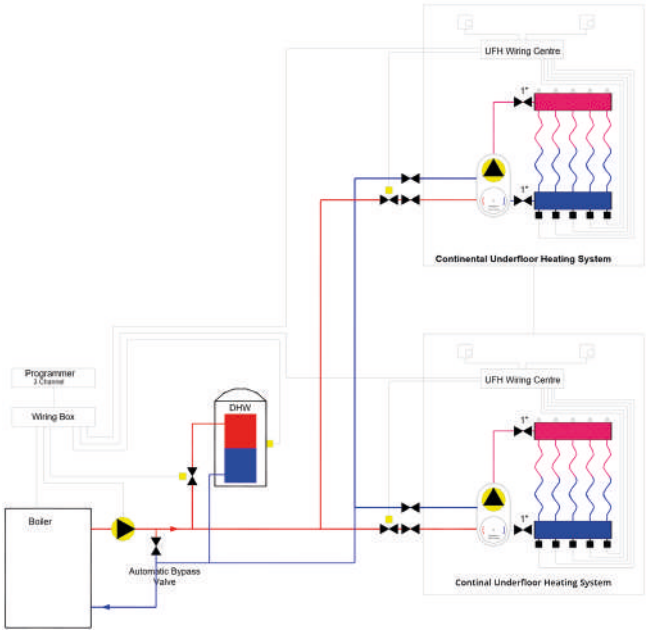
The following should always be installed and followed by a professional Plumber / Electrician.



UFH with radiators and DHW



UFH with radiators and DHW



Two UFH manifolds on two separate control zones

Order of works

You may need to vary this order of works to suit your own site schedule.

1. Prepare the site for installation
2. Assemble, mount, and install the manifold
3. Lay the pipe. Install fitting system if needed
4. Fill the UFH system
5. Pressure test the pipe and manifold
6. Connect pumpset
7. Lay the screed or dry mix (if required)
8. Install all control wiring
9. Install main flow and returns to the manifold position
10. Install the thermostat, manifold controller, and connect the wiring
11. Connect the main flow and return
12. Test the electrical wiring for safety and to ensure boiler interlock
13. Fill and bleed the heating system up to the UFH system (refer to 4)
14. Pressure test the complete heating system (refer to 5)
15. Test run the heating system
16. Commission the UFH system
17. Initial heating period
18. Condition any wood floor coverings
19. Lay final floor coverings

Preparing the site

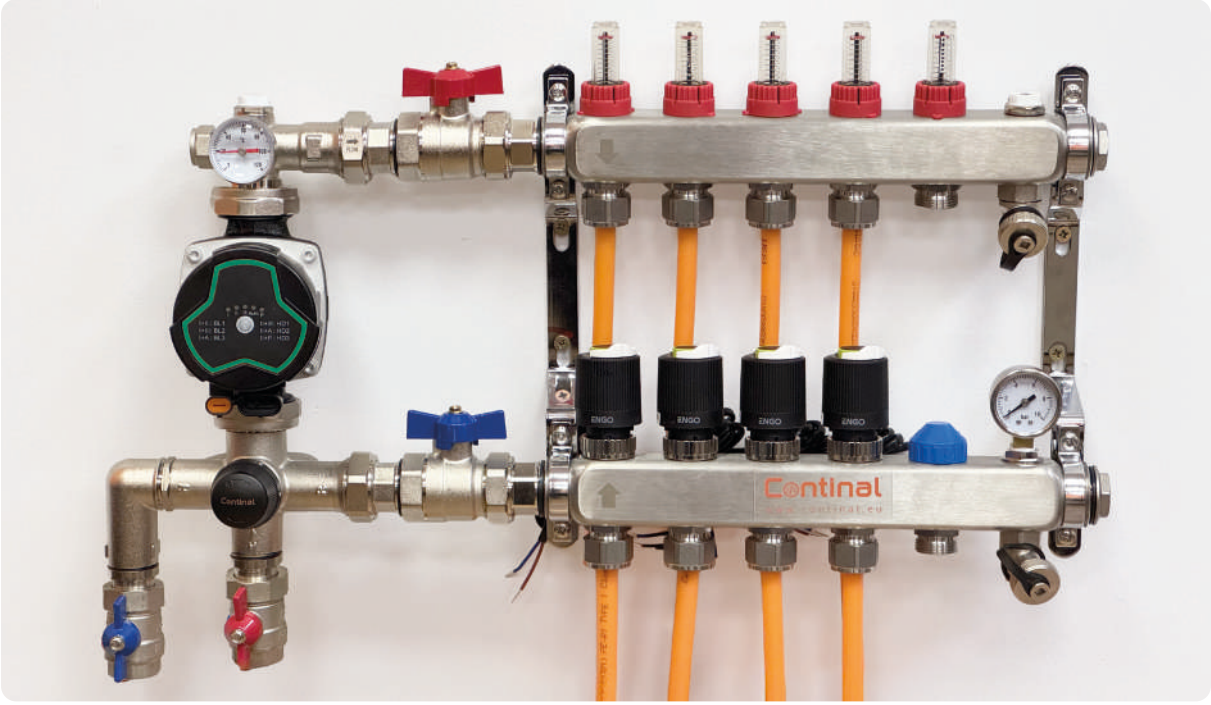
The preparation you will need to do prior to commencing installation is largely dependent upon your chosen floor construction, and the method you intend to use to secure the pipes.

- For screed floors, ensure edge insulation and slip membrane has been fitted
- For pipe staple fitting, ensure insulation has been laid
- When using Contınal® SpeedTrak® fitting, lay the SpeedTrak® first
- For between joist fitting, notch the joists in advance, prior to laying pipe, in accordance with building regulations
- For over joist, lay the sub floor and battens
- Where pipes will need to pass through walls, cut suitably sized holes and sleeve in advance
- When using overlay panels, ensure the subfloor is clean and free of debris
- Some panels will require the subfloor to be primed, please check the individual install page

In general:

- Make sure all other contractors are aware that a Contınal® system is being laid
- Avoid having other trades working or passing through where you intend to lay the pipe until the screed or dry mix has been laid

Continal® manifold assembly



Assembling the Continal® manifold

1. Layout the components of the manifold assembly
2. Attach the ball valves onto the manifold. The red valve should be fitted to the upper flow rail (use the supplied washers). Do not use any sealant on these seals as this can lead to blocking of the internal components
3. Tighten each of the joints you have just made
4. If using manifold couplers or elbows, please use Continal® supplied products only

Mounting the manifold assembly

1. If the wall has yet to be built, construct a temporary frame
2. Make a mounting board by cutting a sheet of plywood to the size of the manifold, allowing at least 200mm above for the wiring centre to be mounted at a later stage
3. Bolt or screw the manifold to the mounting board or wall
4. Tuck the wiring behind the manifold for now
5. Drape a dust sheet over the manifold to protect it

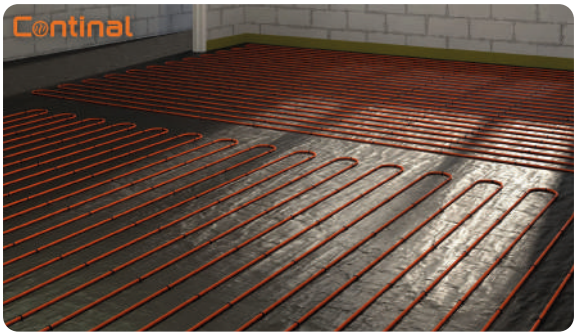
Solid / screed floor

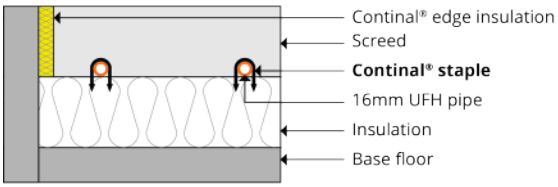
The Continal® screed system - Quick and easy, familiar to the installer and cost-effective.

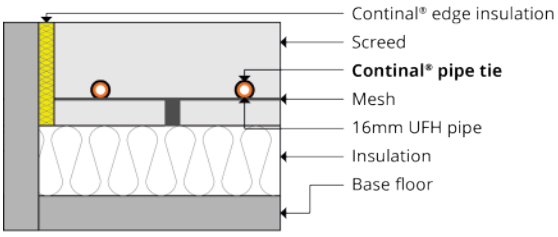
Before installing, you must ensure the site is prepared accordingly – see page 17.

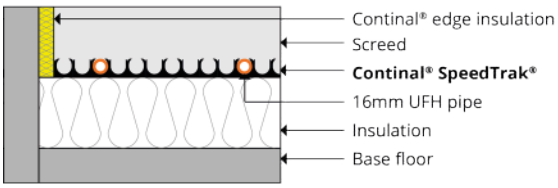
The most common method of fitting underfloor heating, suitable for new builds and renovations where a new screed floor is being laid. Using our trusted SUPERflex™-16 or AluPlas®-16 UFH pipe and our Continal® fitting systems.

Scan me or **click here** to watch our Solid floor installation video.









1

Ensure the site is prepared accordingly, we advise a slip layer to be installed on top of the insulation to create a barrier from the screed.

2

Install your pipe according to your included CAD plan.

The pipe can be secured using our Continal® staples, SpeedTrak® or Continal® pipe ties.

3

Cover with a minimum of 65mm liquid screed or 75mm if you're using a standard screed.

Please refer back to page 15 for important screed information.

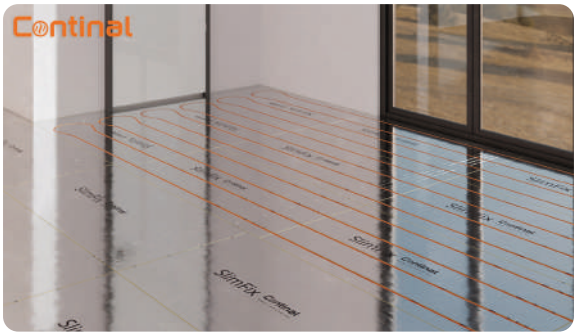
SlimFix®-18 / SlimFix®-25

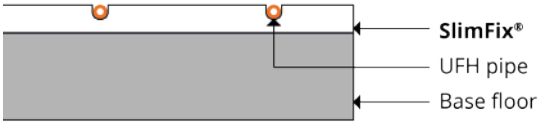
SlimFix® – Low-profile system from only 18mm thin with built-in return panels. Making installation quick and easy. Ideal for renovation, new build, whole house, or single room projects.

Before installing, you must ensure the site is prepared accordingly – see page 17.

Before laying the panels, familiarise yourself with the CAD plan. You can loose-lay the panels prior to fixing to aid the install.

Scan me or **click here** to watch our SlimFix® installation video.





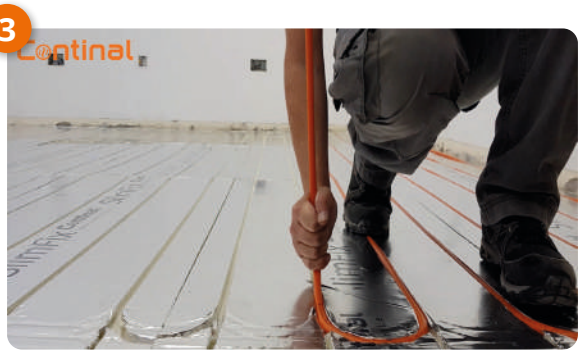
1

Using the SlimFix® double-sided tape supplied, place a strip at each end of the panel. Alternatively, the panel can be mechanically fixed using suitable fixings and large penny washers (or similar).

2

Place the panels into position according to your CAD plan, firmly pressing the ends to the surface to assist bonding. (The panels can be cut using a sharp blade or fine-toothed saw)

3



Install your pipe according to your included CAD plan.

4

Use a strip of the supplied SlimFix® foil tape across the returns.

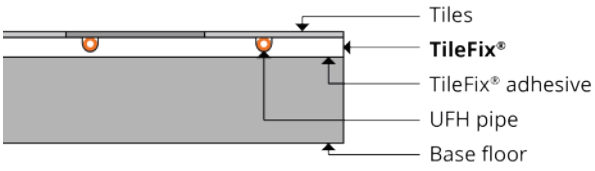
TileFix®-18 / TileFix®-25

TileFix® – The only system you can tile directly onto, with a low-profile from just 18mm thin. Designed to accept direct tiling with a standard tile adhesive and is typically installed over existing solid or timber deck floors.

Before installing, you must ensure the site is prepared accordingly – see page 17. **The subfloor must be primed prior to installation.**

Before laying the panels, familiarise yourself with the CAD plan. You can loose-lay the panels prior to fixing to aid the install.

Scan me or **click here** to watch our TileFix® installation video.



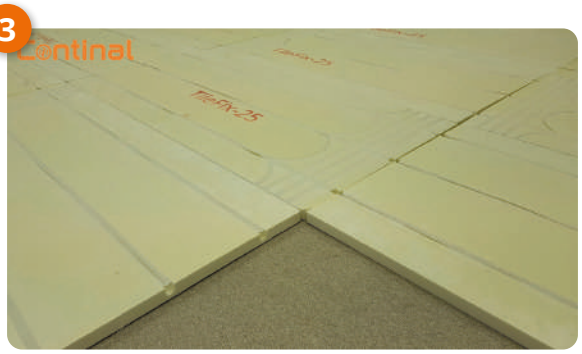
1

Thoroughly stir the TileFix® adhesive before use, spreading evenly using a B1 notched trowel. (Only apply as much adhesive necessary within the working time*.)

2

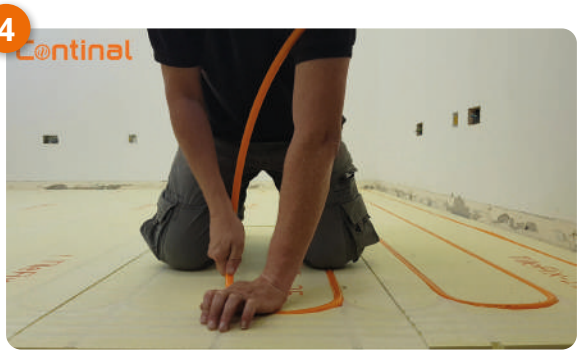
Place the panels in position according to your CAD plan and push flat using a flooring roller in both directions. (The panels can be cut using a sharp blade or fine-toothed saw.)

3



Allow a minimum of 24 hours before inserting the pipe, depending on site conditions.

4



Install your pipe according to your included CAD plan.

*TileFix® adhesive open time: 5-10 minutes. Working time: 25-35 minutes.

OneBoard®

The OneBoard® underfloor heating system is a unique composite structural board system. It enables you to install underfloor heating in a cost-effective manner as an integral part of the build process, saving time and money on site.

The OneBoard® system is going to be a complete structural heated floor, but it must be installed in accordance to BS EN 12871. It must also be overlaid with a minimum 6mm plywood, 55mm screws at 150mm centres and glued with suitable PVA wood glue to comply with structural requirements. Chipboard needs to conform to BS EN 1991-1-2202 for domestic deck categories A1, A2 and A3.

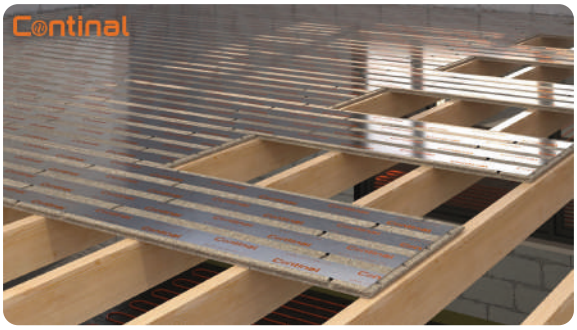
Any deviation or omissions from these instructions will invalidate our terms and conditions and are carried out at your own risk.

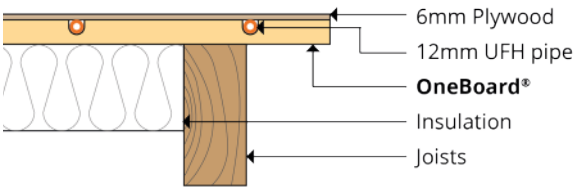
Before installing you must ensure the site is prepared accordingly, details of this are available on page 17.

If your joists are not at 400mm centres, please contact your UFH Expert for advice before installation.

Before laying the panels, familiarise yourself with the CAD plan. You can loose-lay the panels prior to fixing to aid the install.

OneBoard® panels should be laid flat on a pallet when stored and carried individually to your work area when you are ready to start the installation.





Scan me or **click here** to watch our OneBoard® installation video.

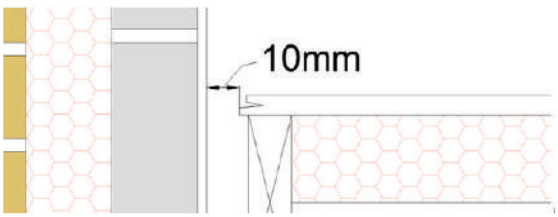
Ensure the panels are kept off the ground with no exposure to direct sunlight, in a dry, water-tight area protected from outdoor elements. Do not expose OneBoard® to moisture or high humidity levels.

The OneBoard® system is designed to be laid on to joists that have been installed at 400mm centres.

1

Before starting the install, create a safe working area by using some spare boards to loose-lay on top of the joists. Ensure the tops of the joists are clean and ready for the boards i.e. any existing nails have been removed.

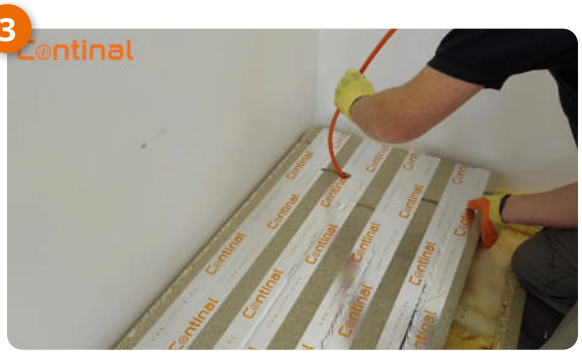
2



Starting in the corner of the room, lay the first board according to the CAD plan. Ensure there is a 10mm expansion gap between the boards and any wall.

OneBoard®

3

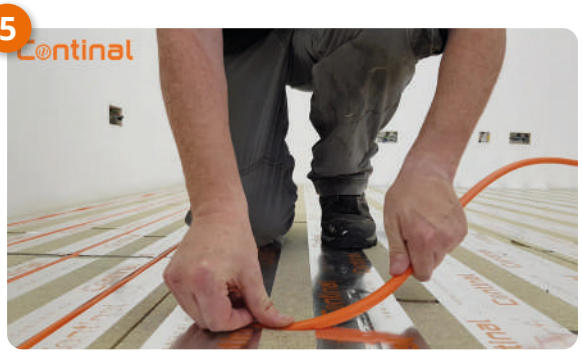


Drill a 16mm hole at a shallow angle through a channel of the board. Feed your pipe under the first board and then feed back to the manifold.

4

Continue to lay the boards in a brick pattern. Ensuring that each board is supported by a minimum of three battens using 55mm screws. Tongue and grooves should be glued using PVA wood glue. Take extra care to line up the channels of different boards.

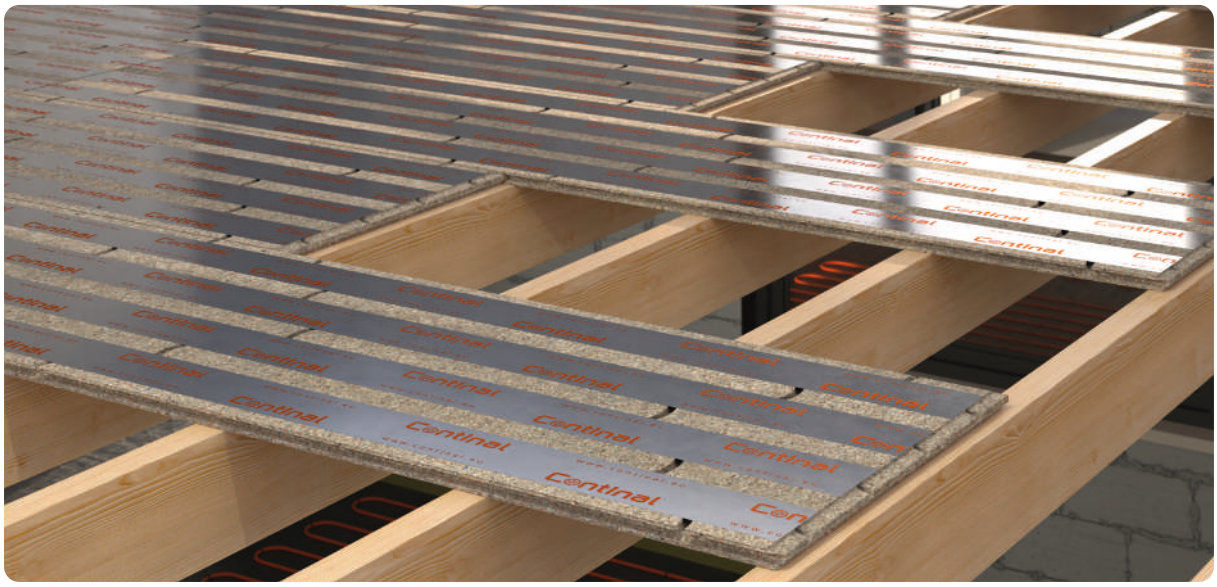
5



Install your pipe according to your included CAD plan. Apply PVA wood glue to the exposed chipboard strips.

6

A 6mm plywood layer is to be laid in a staggered pattern in the opposite direction and fixed every 300mm with 20mm nails or screws. Mark where the pipe is on the plywood to avoid fixing through the pipe.



ThermoDEK™-18

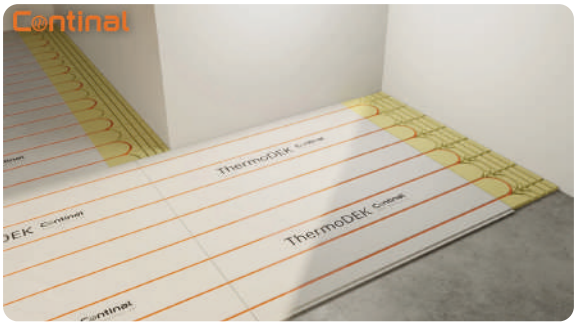
ThermoDEK™-18 - Super-thin, highly efficient overfloor system, with a solid gypsum dry-screed panel at its heart. It provides a high-output, low-profile, high-strength solution, which can typically be laid over existing floors.

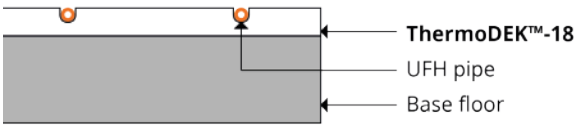
Before installing, you must ensure the site is prepared accordingly – see page 17.

Before laying the panels, familiarise yourself with the CAD plan. You can loose-lay the panels prior to fixing to aid the install.

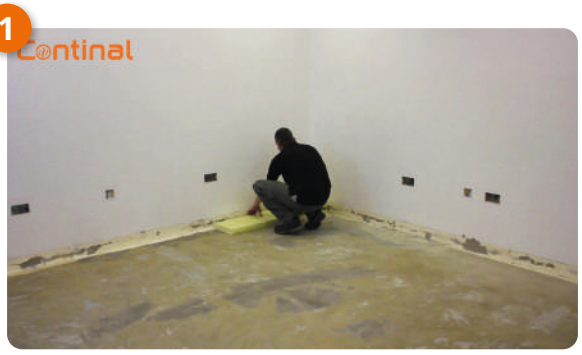
Must be installed with an insulated sub-floor.

Scan me or **click here** to watch our ThermoDEK™ installation video.





1



Starting in the corner of the room, first lay the return panels, as per the CAD plan.

2

Lay the ThermoDEK™ with the tongue facing the wall, with a 6mm to 10mm gap.

3

Lay the panels using a bead of the DEK-bond™ along the groove ensuring they are locked together. Cut the panels using a hand saw or circular saw.

4

Install your UFH pipe according to your included CAD plan. Ensure you allow room for the return panels at the end of the room.

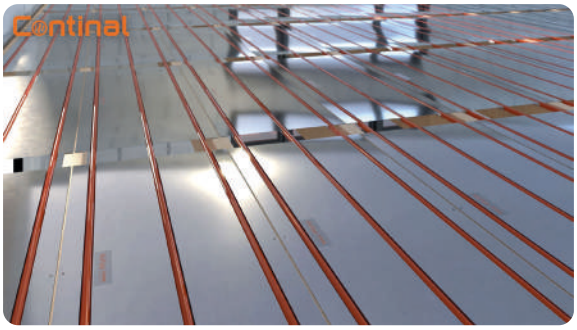
AluPlate™ fit-from-above

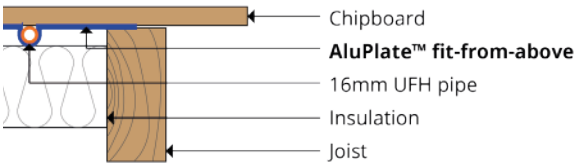
AluPlate™ fit-from-above – Quick and easy to install, with no increase in the finished floor height.

The AluPlate™ fit-from-above system clips our 16mm pipe in position, ensuring excellent surface contact with the pipe and the floor deck. This maximises heat transfer and is covered with the load-bearing floor deck, which can then be covered with your choice of flooring.

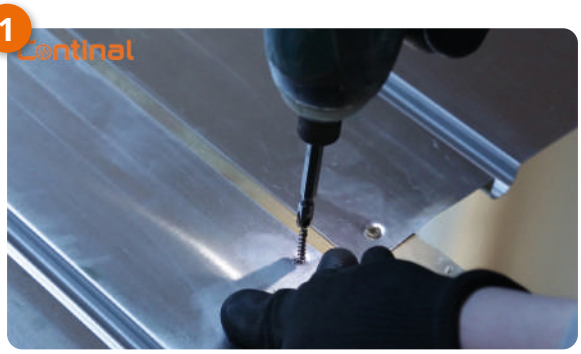
Install the insulation prior to laying the plates, with a 16mm gap from the top of the joist. This will help support the plates.

Scan me or **click here** to watch our AluPlate™ fit-from-above installation video.





1

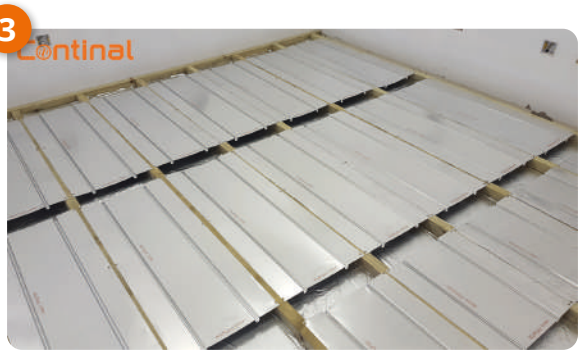


Lay the first plate, fixing it directly to the top of the joist. Use either screws or nails (3 per side).

2

Lay the next plate, leaving a 100mm gap. Continue according to your CAD plan.

3



Install your pipe. Take your time when doing the returns.

*Note – wear gloves when installing AluPlate™ systems.

4

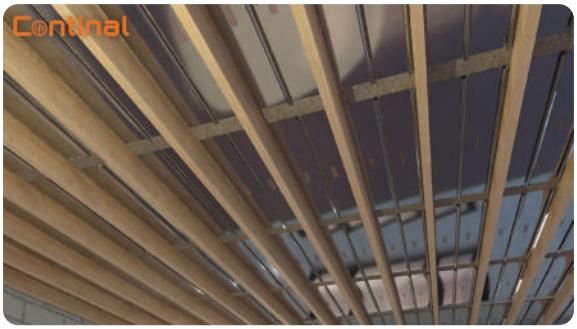
If you are using tighter pipe runs, allow a natural bulb within the bend.

AluPlate™ fit-from-below

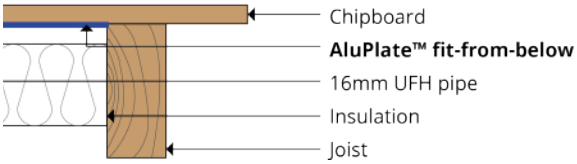
AluPlate™ fit-from-below - Allows the system to be installed from below after the floor has been laid. This could be either during construction or as part of a renovation where access from below is available.

Ensure the drilling of holes within the joists for feed pipes is done prior to installing the plates.

*Note – wear gloves when installing AluPlate™ systems.



Scan me or **click here** to watch our AluPlate™ fit-from-below installation video.



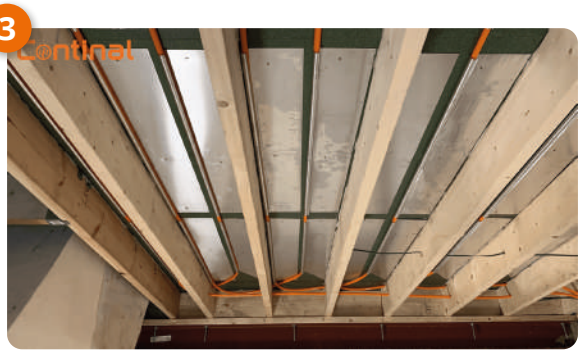
1

Screw the first plate to the base floor, ensuring 100mm gap from the wall.

2

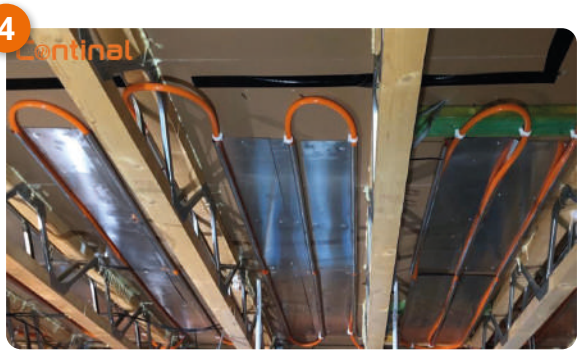
Lay the next plate with a 100mm gap end-on-end. Continue until all plates are in place.

3



Pull all of the pipe through the joists to the furthest point, and work backwards towards the Contínal® manifold.

4



Clip the pipe within the plate to secure. Insulate the joisted area, ensuring the insulation is compacted to the plates and pipe.

Installing UFH pipe

AluPlas® and SUPERflex™

The UFH pipes are generally laid in a single serpentine pattern across the whole of the floor area, with the hottest part of the pipe laid adjacent to external walls or glazed areas. Your CAD plan will detail any change to this.

Pipe conduit should be used where UFH pipes pass through a wall, at an expansion gap, or where some insulation is required on flows or returns.

The UFH pipes are generally laid at either 250mm / 200mm centres, or 150mm / 100mm centres, with the spacing determined by the floor construction. Your bespoke CAD plan will detail any change to this.

The UFH pipes must be laid at least 100mm from the perimeter of the room. Flow and returns to each zone are generally run adjacent to each other and spaced as per the zone they are running through.

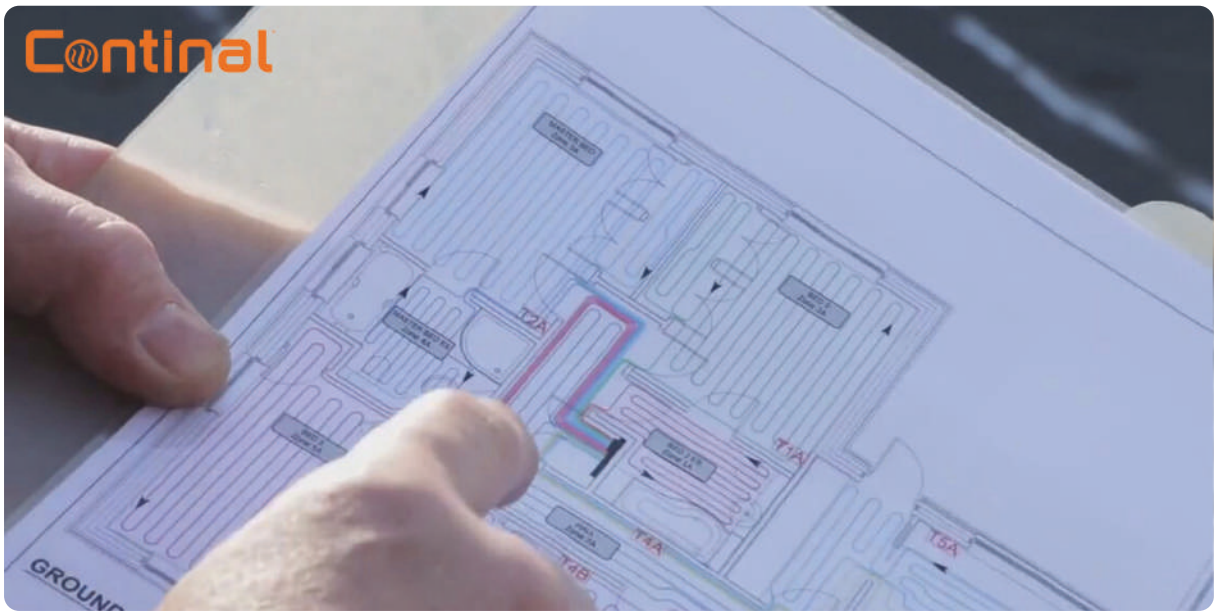
The AluPlas® pipe will hold its shape when bent, and can be easily bent by hand to 150mm centres. Below this use a pipe bending tool.

The flow is the top rail of the manifold and the return is the bottom rail of the manifold.

The UFH pipe should not cross.

Guidance

1. Remove the packaging, take care not to cut the pipe
2. Starting with the flow of each zone, uncoil the pipe. Lay the pipe in the zone (as per the CAD plan) back to the manifold
3. Fix the pipe every 1m to 1.5m (0.3m when using liquid screed) with the supplied Contınal® system
4. Cut the pipe cleanly at the manifold allowing approx 150mm spare
5. Note the total cut length of the pipe on each zone (the pipe is marked every metre). The figures will be used later for balancing the system
6. Cut the UFH pipe end squarely using pipe cutters
7. Remove any ovalling with the pipe reamer
8. Bevel the inside of the UFH pipe bore carefully with a knife, ensuring no swarf enters the pipe
9. Place the Eurocone compression fitting nut over the end of the pipe
10. Carefully slide the split olive onto the pipe
11. Push the ridged sleeve fitting into the pipe
12. Offer up the pipe to the manifold connection and hand tighten the compression fitting
13. Tighten compression fitting a further ¼ turn



Testing the system

Flushing and filling the pipe

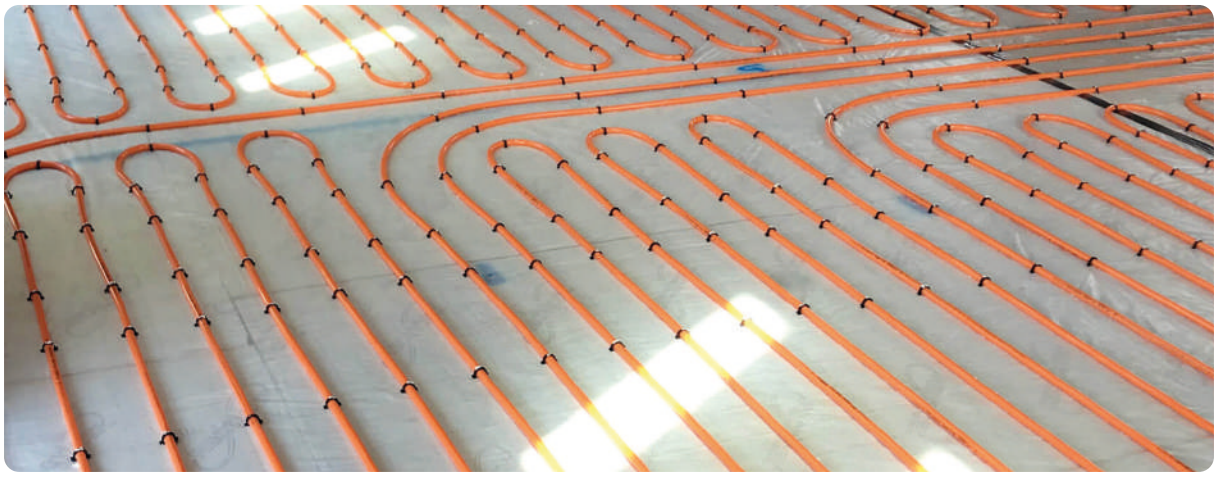
1. Ensure both ball valves are closed
2. Ensure all balancing valve caps are screwed down to close pipe loops
3. Connect a hose from the mains to the underside of the upper manifold end set using a standard hose pipe fitting. Secure with a jubilee clip
4. Connect a second hose to the lower manifold end set and run to a waste point
5. Turn valves to the in-line (vertical) position
6. Turn on the mains water to fill the hose pipe
7. Open air bleed valve on upper rail to purge air from manifold rail and ensure water flow
8. Open valve cap for zone 1. Water will then flow through the circuit and into the bottom rail
9. Make sure water is flowing from lower manifold rail to ensure flow
10. Water should be allowed to run for a minimum of 5 minutes to clear all air from circuit
11. Once water is free of air, close cap; water will stop flowing
12. Repeat stages 8 to 11 for all remaining circuits
13. Turn off and disconnect hoses
14. Turn end set valves to the horizontal position

Pressure testing

1. Connect pressure gauge to air bleed point on manifold end set
2. Connect pressure test pump to manifold assembly
3. Open all circuits by removing plastic caps
4. Pressurise the system to 6 bar then isolate test pump
5. Allow temperature in system to stabilise then reset pressure to 6 bar
6. Visually inspect all pipework and manifold connections
7. Monitor pressure for period of 1 hour minimum
8. Maintain pressure in system during screeding to highlight any damage caused during this process

Freezing conditions

If the system is going to be exposed to freezing conditions then the system must be either: protected from freezing, drained off and cleared of water or have a suitable anti-freeze added.



Continal® pumpset

Continal® pumpset mixer

Continal® pumpset: low temp

Assembly guide

1. Carefully remove from the packaging and check to ensure that all components are in place and that there is no damage to them

2. The pump mixer is supplied for connection to the left hand side of the manifold but can be altered for connection to the right hand side. **This is achieved by rotating the upper and lower elbows through 180 degrees using the pump union nuts**

3. The mixer assembly can be attached to the manifold either before or after the manifold is secured to the wall. Ensure that there is sufficient space for installation and maintenance at the intended position for the control group

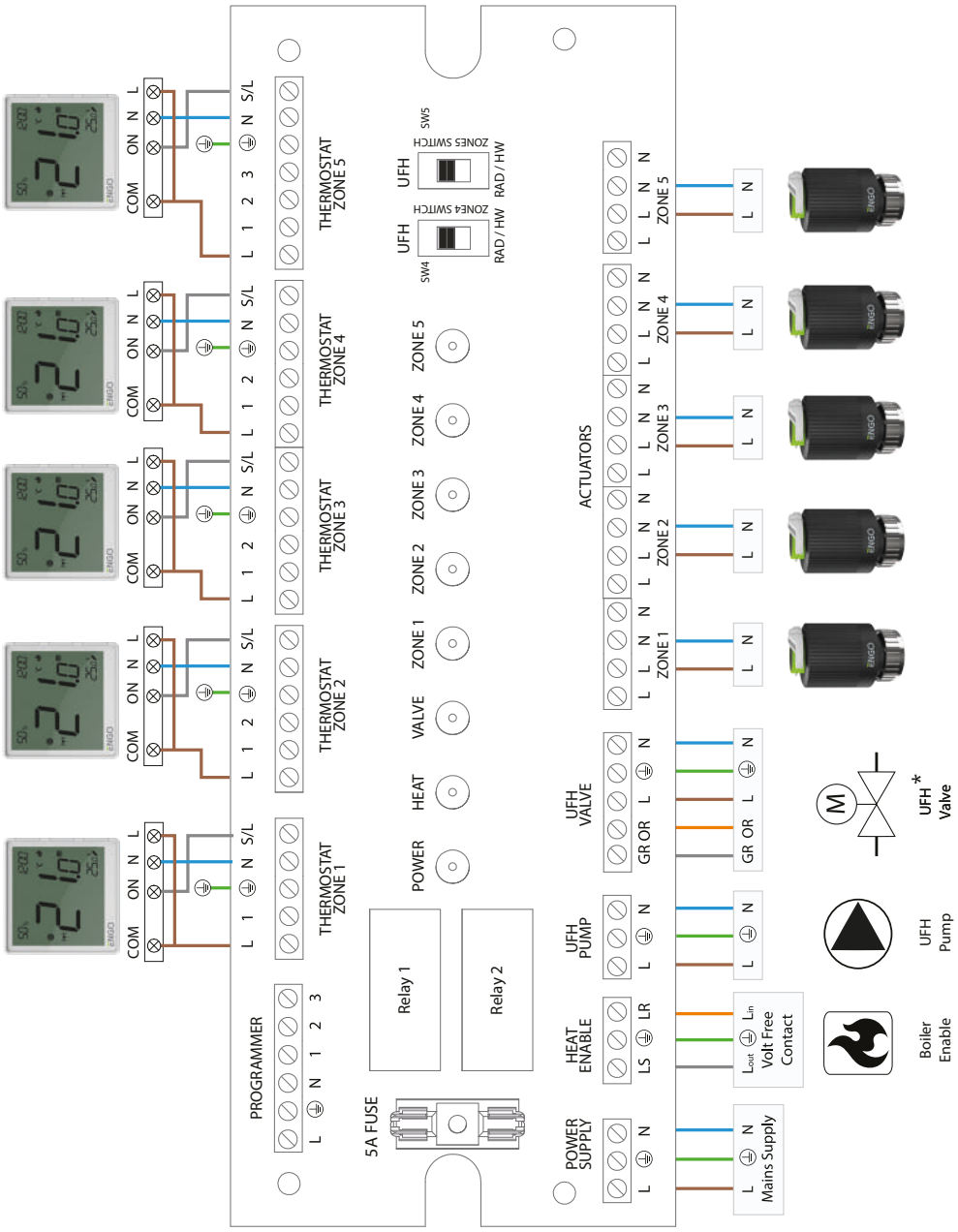
4. A swivel joint is fitted to each side of the control group for connecting to the 1" F manifold isolation valves. The inlet tee swivel joint should be connected to the return rail and the outlet elbow swivel joint to the flow rail of the manifold. Carefully offer up and screw the swivel joint threads evenly into the manifold using a 37mm A/F spanner: the use of a 31mm A/F spanner will also ensure that the connection to the pump mixer is kept tight. The joints use O-ring seals: take care not to over-tighten them

5. Once connected, finish securing the manifold and large area mixer to the wall if not already completed

6. The primary flow and return pipework can now be connected to the 2 x 3/4" F connections. The flow (H) connection for a low temp pump set is located on the left hand side and the return (R) is located on the right. These connections are reversed on a high temp pump set. It is recommended that ball valves are used to isolate the pipework where it is connected to the pumpset

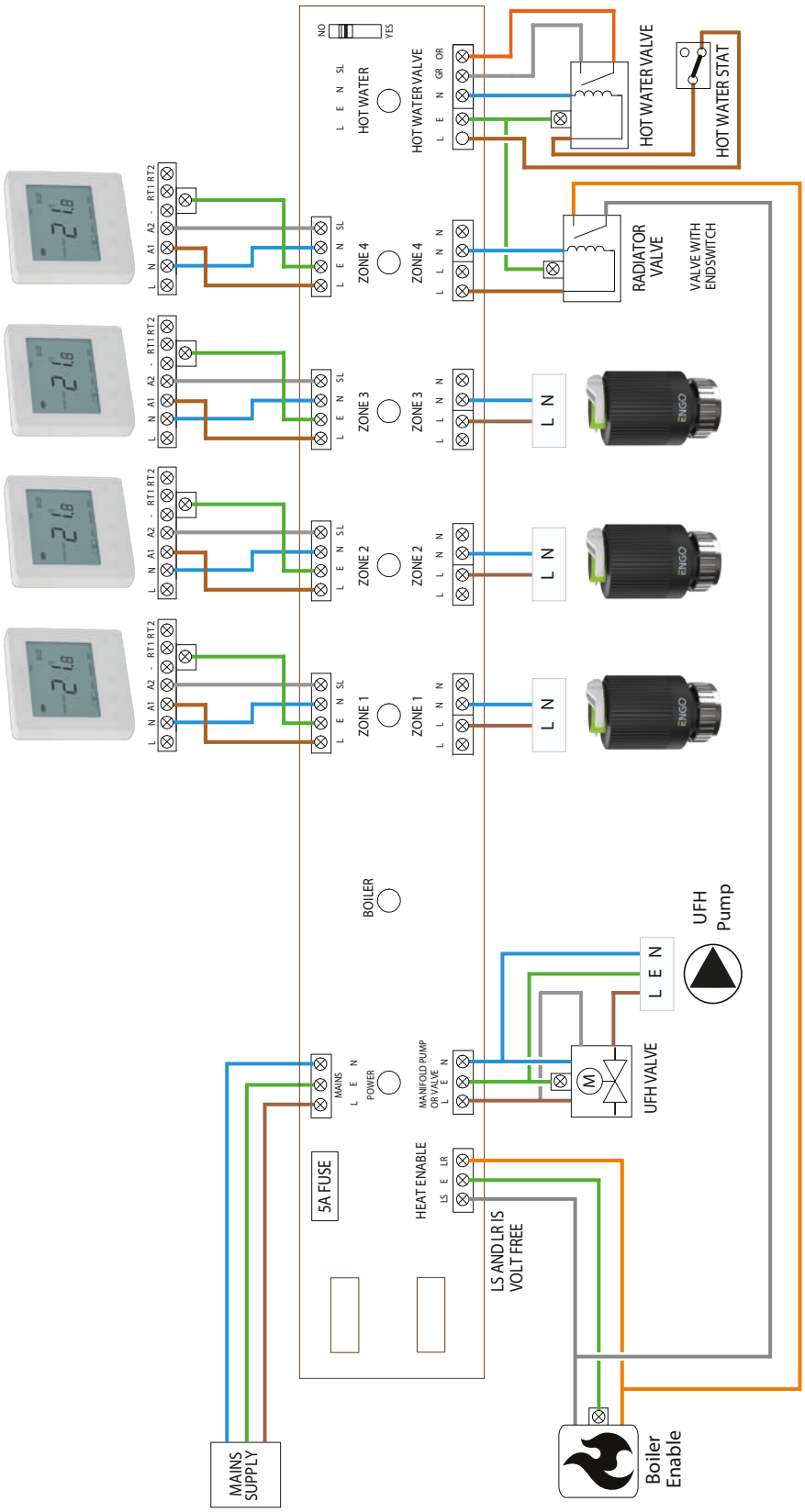
Wiring schematics

EPH wiring centre: 5 zone / 10 zone



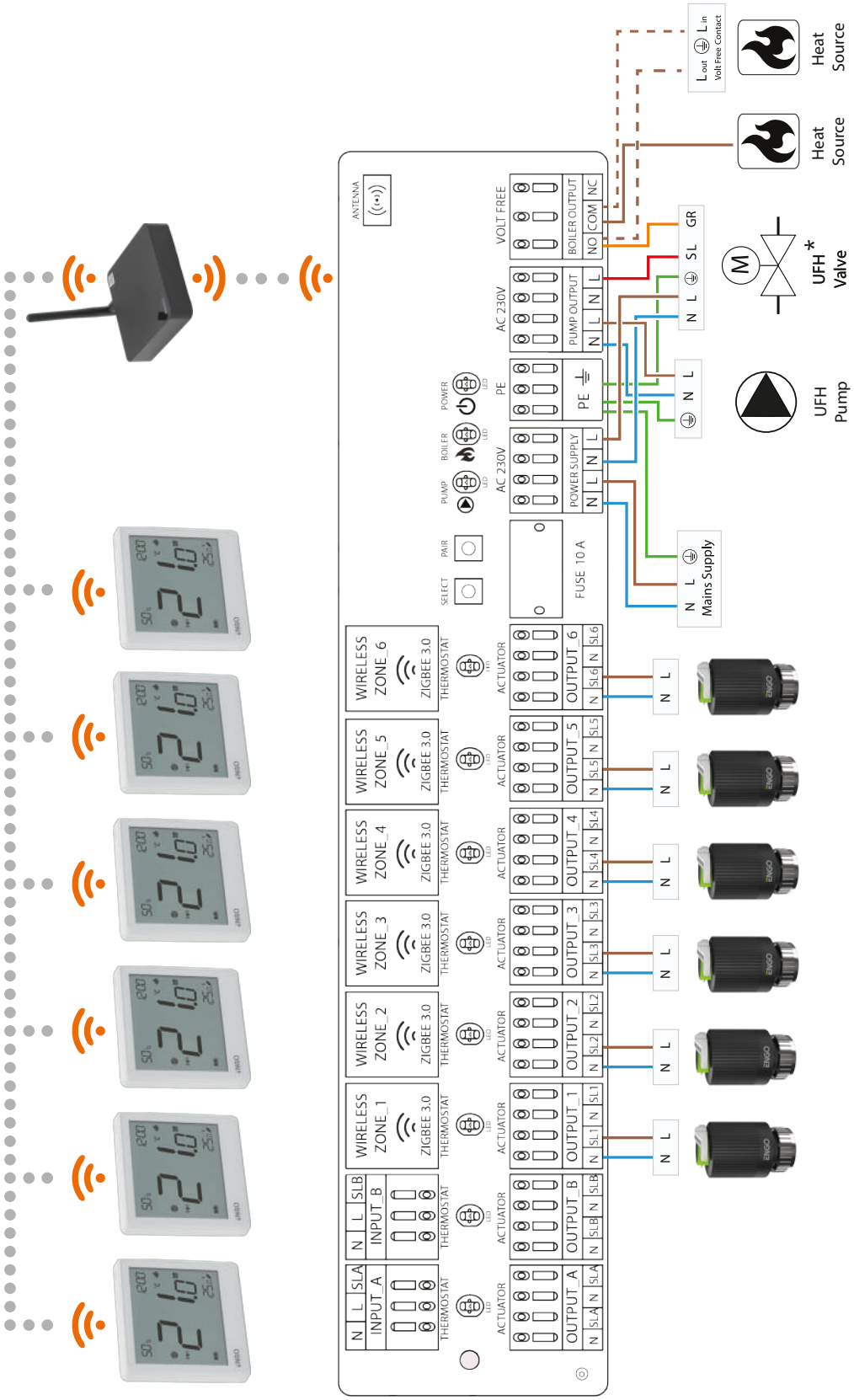
Wiring schematics

Heatmiser wiring centre: UH4 / UH8



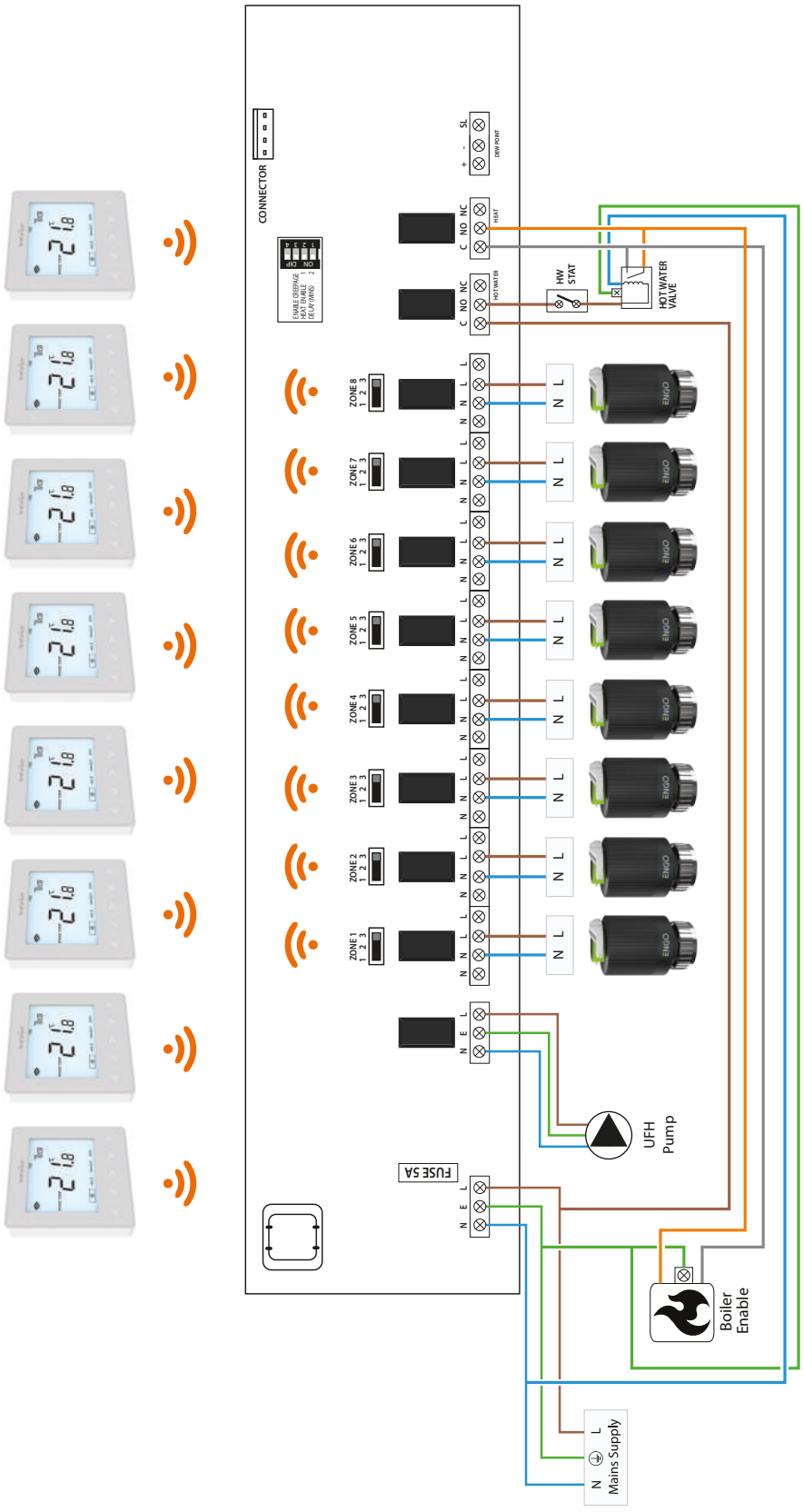
Wiring schematics

ENGO wiring centre-RF



Wiring schematics

Heatmiser wiring centre: UH8-RF V2



Commissioning the system

Stage 1 – Connect and purge the supply pipe work

1. Connect the main boiler flow and returns to the Continal® manifold assembly. Note that the flow connects to the "H" connection on the mixer system, and the return connects to the "R" connection
2. Isolate the manifold assembly by closing the two ball valves
3. Fill the heating system and purge all pipe-work up to the manifold assembly
4. If not already done, close the zone actuators

Stage 2 - Bleed the Continal® manifold and pumpset

1. Open the ball valves
2. Turn your supply back on
3. Bleed the air from the manifold using the bleed valve on the top manifold end set
4. Turn off your supply and close the filling valve and air bleed valve

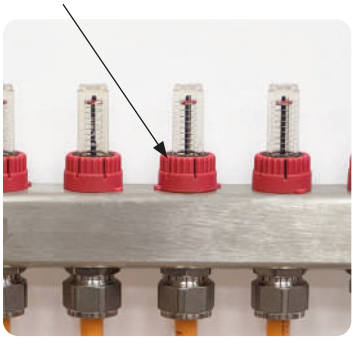
Stage 3 - Bleed the whole heating system

1. Turn up all the thermostats
2. Manually open the zone actuators
3. Ensure the ball valves are open
4. Open all of the zone valves fully
5. Turn on the power to your boiler and heating system and run the system
6. Bleed the air from the top manifold end set and any other bleed points on your heating system (e.g. attached radiators or towel rails)
7. When all the air is bled turn off the system and close all air bleed valves

Stage 4 – Setting the flow rate

1. Using the flow rates from the CAD plan, we will now set the flow rates on the manifold
2. Remove the zone actuators from the lower manifold by unscrewing, and open the flow meters fully by removing the red locking collar and twisting the base
3. Turn the system on, ensuring all thermostats are on. You should notice the flow meters move – if you do not, please contact us
4. Working from zone 1, twist the flow meters base until the desired flow rate is set for that zone. The setting can be within 0.25L/min
5. Repeat this for each zone
6. When complete, you will notice that the flow rates on the first zones have now changed. This is normal and is due to the changes in the pressure differentials in the system, as you have adjusted the zones. Repeat steps 4 and 5
7. Repeat steps 4 and 5 for a third time. The flow meters should now all be reading the correct figure. If not repeat again
8. You have now balanced the system. Refit the zone actuators, flow meter locking collars, shut the system down, and record the flow rate settings below for future reference
9. Repeat for each manifold

Remove red locking collar and adjust from here



Initial heating period

The initial heating period allows the system to settle down, and is used to make fine adjustments to the system.

1. Ensure actuators are fitted
2. Turn the mixer system to minimum
3. Turn on the heating system and increase the set temperature of the thermostats. Water should start to flow through the system
4. Bleed off any air at the top manifold end set, at the pump, and at other heating devices (e.g. radiators and towel rails)
5. The temperature gauge on the mixer system reads the flow temperature within the system
6. Allow the system to run initially for approximately 30 to 60 minutes, keeping the mixer system control knob at the minimum temperature setting. It is normal for the return pipes from each zone to be a lot cooler than the flows, but they will heat up as time progresses
7. When the return pipes from each zone are roughly at the correct temperature, increase the control wheel setting until the temperature gauge reads approximately 40°C. Monitor this temperature over a period of about 30 minutes
8. Your system is now set up. If you are going to use the UFH to dry the slab or screed, or you need to condition timber floor, reset the control wheel to the minimum temperature
9. If you are ready to start heating your property, run the system and increase the flow temperature by 5°C every day up to the highest setting you can achieve
10. If you notice that any particular area is not getting as warm as the other areas, increase the flow rate (remove the zone actuator first) by 0.25L/min increments. If it will not flow at a higher rate, lower all the other zones by 0.25L/min. When you have found the ideal settings note these down in the table below
11. **Complete the commissioning sign off page 13**

"Being able to order direct and have the complete kit delivered to site is such an advantage and saves me so much time."

"I received 4 deliveries on 4 different sites and all delivered quickly. In 25 years in the business, I have never seen such a fast service. I will not fail to call you again and recommend you!"

"Personally, it's the best system in my eyes but also the best customer service, with reliable delivery. You have never disappointed me."

"I am very satisfied with your systems. Delivered directly to site!"

"I've never had a bad installation with Contina®, their kit is the best on the market."

Contina®
UNDERFLOOR HEATING

info@contina.co.uk
www.contina.co.uk
01566 772 322

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