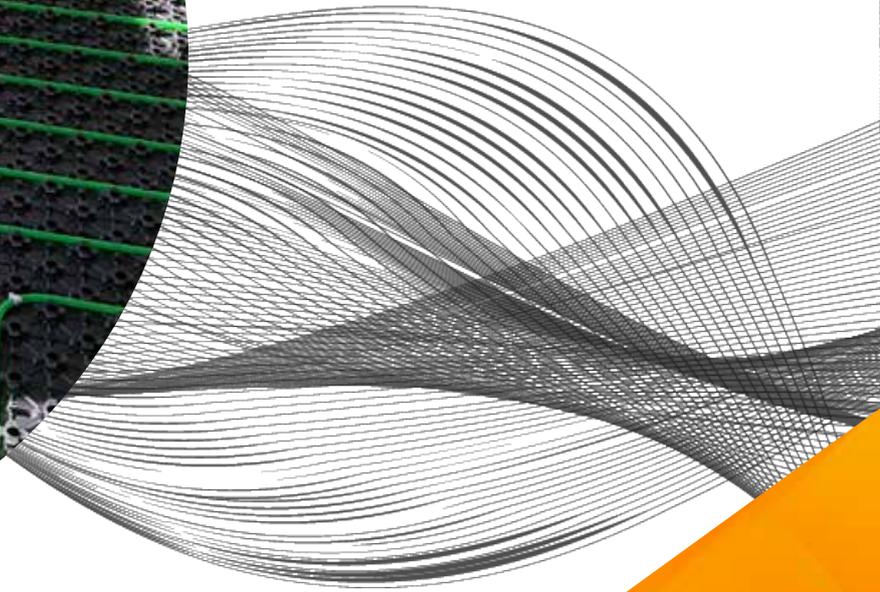
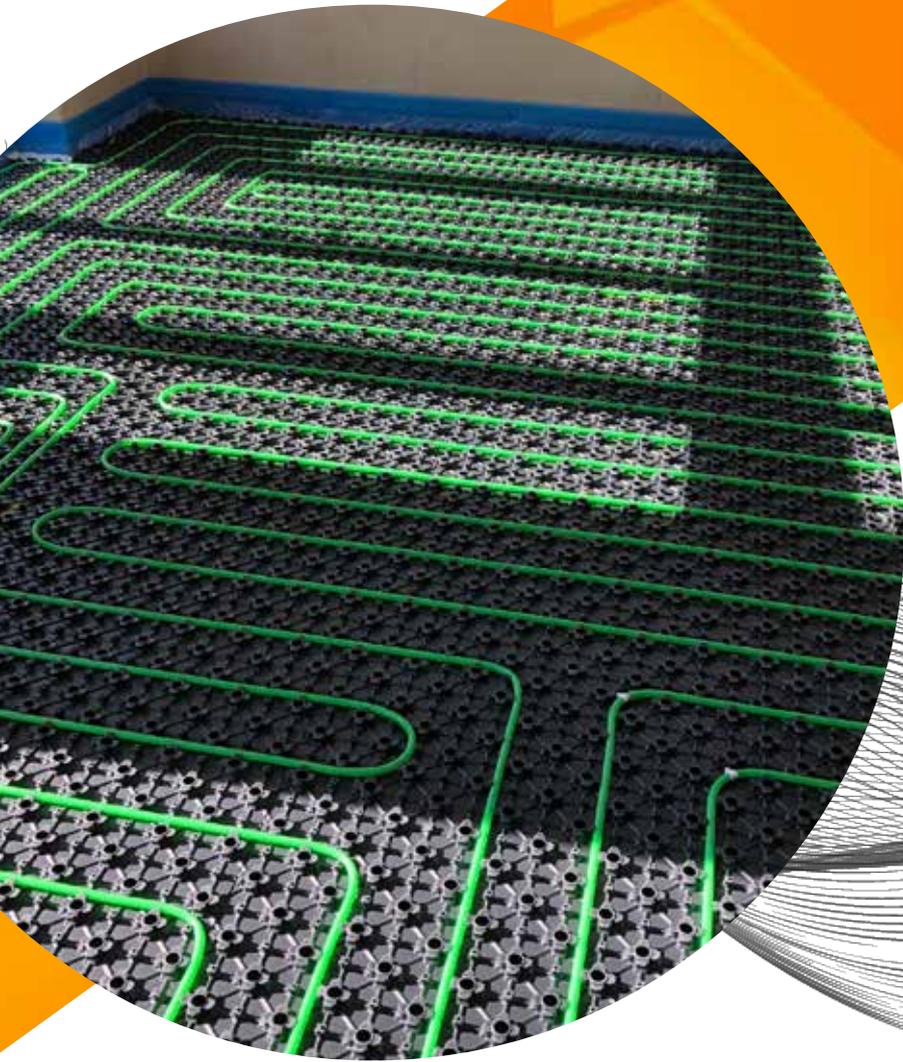




HydroHeat
UNDERFLOOR HEATING LTD

Floating Heat Plates Install Guide







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Introduction

Within this install guide we will cover most aspects of the system in question, but if there is any information or further questions you may have, please make direct contact with our technical team who will be happy to assist.

Firstly, underfloor heating is a great addition to anyone's property, providing cleaner and more comfortable environments within the living space. At first glance it's an easy product to work with and very easy to install, although this maybe the case there are some technical guidelines that should be followed to ensure the system has a long, trouble free life.

How underfloor heating works is when your thermostat, normally positioned in each room, drops below the desired room temperature the thermostat sends a signal to the wiring centre. The wiring centre is the control panel for your UFH system, this will open the corresponding actuators, the UFH 2 port zone valve, initiate the UFH pump and send a signal to the heat source to fire up. The heat source will start to heat the water and initiate the circulating pump. Once the water reaches the UFH pump it will begin to circulate around the UFH system. When the UFH water is up to temperature the mixer valve will close but water will continue to circulate until there is no more call for heat and the room is up to the desired temperature.

Introduction

Floating systems utilise heat emission plates, laid into pre-grooved insulation which is to accommodate the underfloor heating pipework. The insulation is made up of dense XPS, the heat plates are made up of 0.5mm aluminium sheets which help transfer the heat from the pipe into the finished floor above.

TECHNICAL INFORMATION

Pipe options
PE-RT 16mm

Maximum circuit length
100m for 16mm

Board dimensions(LxWxD)
1200mm x 1200mm x 30mm Insulation

Insulation

Insulation, where applicable, must conform with the current Building Regulations Part L. All underfloor heating requires a level of insulation to restrict the downward heat-loss in accordance with BS EN 1264-4 insulating layers.

System insulation

minimum heat conduction resistance of system-insulating layers below the pipes of heating/cooling systems (m²K)/W

	Heated room below or adjacent	Unheated or intermittent heated room below, adjacent or directly on the ground *)	External air temperature below or adjacent		
			External design temperature $\vartheta_d > 0^{\circ}\text{C}$	External design temperature $0^{\circ}\text{C} > \vartheta_d > -5^{\circ}\text{C}$	External design temperature $-5^{\circ}\text{C} > \vartheta_d > -15^{\circ}\text{C}$
Heat conduction resistance $R\lambda_{ins}$	0,75	1,25	1,25	1,50	2,00

*) with ground water level < 5m below the supporting base, the the value should be increased.

Installation

Preparation

Preparation for any job is key to a successful install. Ensuring you are prepared will reduce the number of issues encountered.

Firstly, check your delivery, make sure all products are there and accounted for against the delivery note. If there are any products missing we will need to be notified within 48 hours of delivery.

Make sure all work areas are clear and tidy and other workers are finished in the areas you need access to.

Tools required

Plastic pipe cutters

Drill and drill bits

Adjustable spanner x 2

Pump pliers

Tape measure

Spirit level

Stanley Knife

Screw driver both pozi-drive and flat head

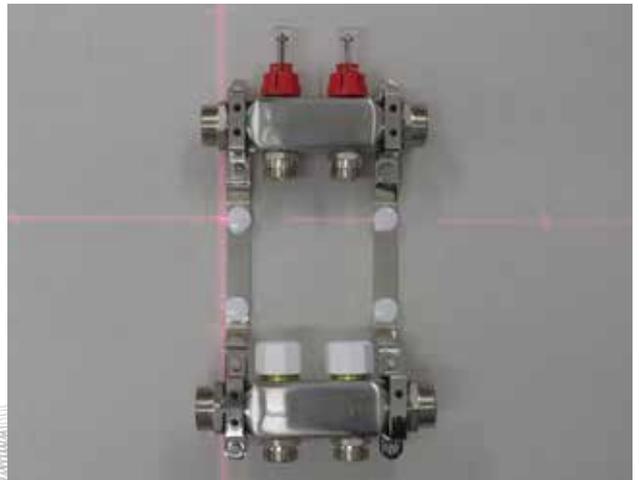
Adhesive foil tape (for taping the insulation together)

Pipe de-coiler (optional but makes life a lot easier)

Installation

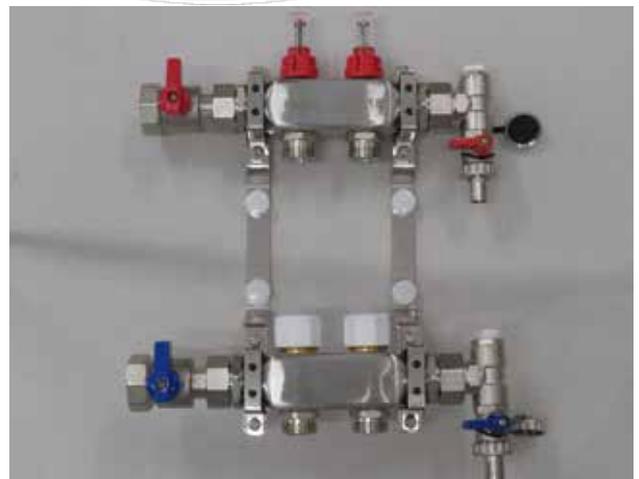
Manifold

1. Make sure that the manifold is level and that it is high enough so the pipes can be installed. Using the screws provided to mount the manifold assembly to the wall (please ensure that the screws and plugs provided are appropriate for your wall construction, if not alternative suitable fixings should be used).



2. Fit the blue handled 1" union ball valve to the return manifold and the red handled 1" union ball valve to the flow manifold using the fibre seals provided.

3. Fit the end connection with manual air vent and blue handled drain/filling valve to the return manifold and the end connection with the air vent and red handled drain/filling valve to the flow manifold, using the fibre washers provided.



Installation

Control Pack

1. Once the orientation has been determined, the straight connector, which connects the Thermoguard UFH valve to the manifold, needs to be screwed into the return port. This is tightened using the straight connector tool supplied.



2. The angled connector can then be connected to either the flow or the return port on the Thermoguard UFH valve depending on orientation of the supply pipework. Tighten with an adjustable spanner.

3. Connect the Thermoguard UFH valve to the pump using the pump nut which is pre-assembled to the Thermoguard, ensuring the pump washer is inserted. Please take note of the direction arrow on the pump body.



4. Ensure the 1 1/2" pump nut is fitted to the flow connection elbow. If not, this can be slipped over the flanged connection face. Connect the nickel plated elbow to the pump using the 1 1/2" pump nut, ensuring the pump washer is inserted. Tighten the pump union connections.

5. Connect the elbow to the flow manifold by means of the 1" MBSP connection onto the flat faced union connection, remembering to fit the 1" fibre washer. Connect the Thermoguard UFH control valve to the return manifold by means of the 1" MBSP connection onto the flat faced union connection again remembering to fit the 1" fibre washer.



Installation

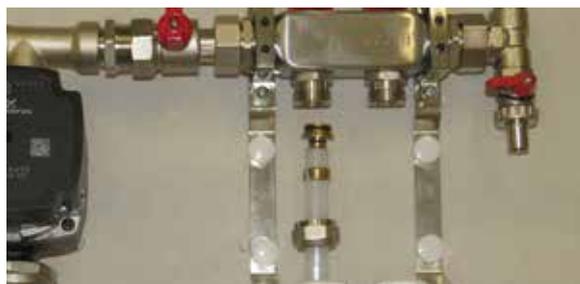
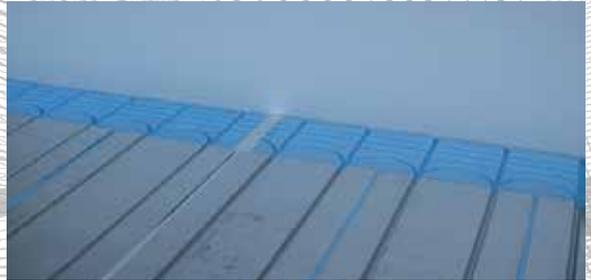
System

1. Before the system is installed, ensure the floor is level and totally free of debris and dirt. If the floor is not level, depending on the severity, a self-levelling compound must be used prior to installation.



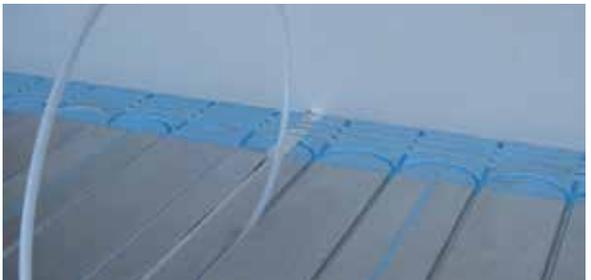
2. Starting from the corner of the room, lay the insulation panels covering the whole floor. In areas where there will be no underfloor heating pipework, use regular insulation of the same thickness. Tape the insulation panels along the joins to prevent movement.

3. Start to lay the aluminium heat plates into the preformed insulation leaving a 20mm space along the sides and a 10mm gap in-line. If the plates touch, it will make noises under expansion. The end returns should remain uncovered.



4. Ensure each UFH pipe is cut square using a plastic pipe cutter and not damaged. Using the euroconus feed the nut then olive over the pipe before inserting the euro insert into the pipe. Now connect the pipe to the manifold using an adjustable spanner. It is advised to label up each circuit using the identity stickers provided to identify which zone each loop serves.

5. Utilising the connection runs in each panel start from the manifold and run your connection pipe to the corresponding room. Start to lay the pipework into the preformed aluminium heat plates using the pipe layout design. Each insulation board will have pre-formed bend to allow for the return pipework.



6. Upon completion of the underfloor heating pipe circuits – ensure all pipework is pressure tested.

Commissioning

Filling & flushing the system

1. When initially filling the UFH heating system it is important to remove air in the pipework. In order to do this a hose should be connected to the upper fill valve and the bottom valve should be opened to allow the water to be flushed into a bucket or drain. The bucket option is preferred as you will be able to see when all the air bubbles have been removed.



2. First isolate all but one of the heating circuits by turning off the relevant decorator caps. Next flush out the open circuit with clean water until the bubbles cease to appear. Isolate this circuit and open the next one. Please note: The manifold flow meters are delivered in the closed position, these need to be opened for water to flow through the loops.

3. Repeat this until all circuits have been filled. Introduce any inhibitor or anti-freeze at this stage.



4. Flow rates should be set to correspond with the system design. This is achieved, with the pump running, by lifting the locking collars at the base of the flow indicators and twisting the indicator base until the desired flow is indicated, then re-fit the locking collars.

Do not twist the glass as this will completely remove the gauge, this is designed only to be removed for cleaning purposes, and when the flow has been isolated.

Commissioning

Pressure testing

1. Firstly, pressurise the system to 3 bar and walk ALL circuits looking for leaks.
2. Once this has been completed and no leaks have been found increase the pressure to 6 bar and check once again for leaks.
3. When you are satisfied there are no leaks leave the system pressurised for 1 hour minimum.

The system should be left pressurised at 3 bar pressure before the screed is laid until it is fully cured. Under no instances should the underfloor heating be used to dry the screed and it should be left off until fully cured. Follow the screed suppliers specification for drying times.

Technical Advice

Floor coverings

Carpets

Carpets are suitable to be laid onto the Floating Heat Plates, although a 9mm ply or 6mm cementious board must be used. If a 9mm ply wood is used the must be taken into account when choosing the thickness of your carpet as to high TOG will result in a highly restrictive floor stopping the heat from escaping to the upper room area.

Tiles and Stone

Tiles are suitable to be laid onto Floating Heat Plates. It is advised that a 9mm ply or 6mm cementious board must be used. Flexible underfloor heating suitable tile adhesive must be used at all times

Wood and Laminate

Most wood and laminate is suitable for use directly over Floating Heat Plates. We design our systems to not exceed a surface temperature of 27°C but you should check with the flooring manufacturer to establish the maximum surface temperature (we will need to account for this when designing your system)