INSTALLATION GUIDE – IG05
JOISTED FLOORS
FIT FROM ABOVE PLATES

HEATING & VENTILATION SYSTEMS

PRODUCT INFORMATION

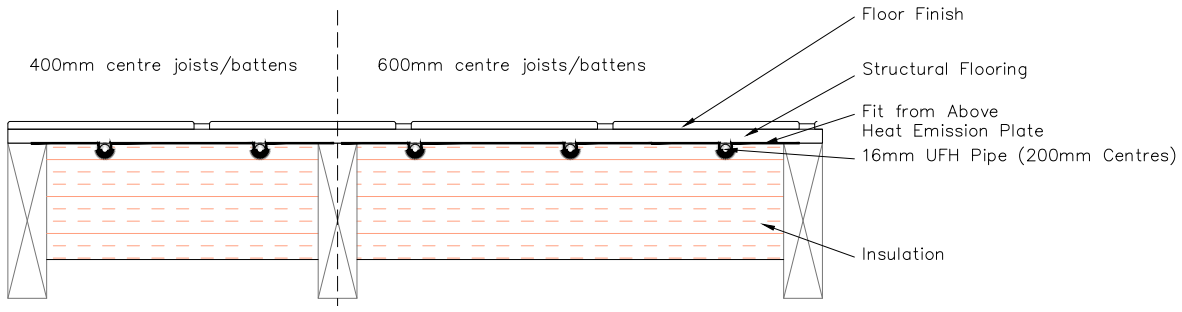
Typical UFH kit items:

- UFH 16mm Pipe
- Fit from Above Plates
- 16mm Pipe Bend Supports
- Manifold Arms
- Manifold Pump / Mixer
- 1" Isolation Valves
- 16mm Manifold Pipe Connections
- Thermostat/s
- Wiring Centre
- Actuators (if more than one thermostat supplied)
- Installation Guide

FIT FROM ABOVE PLATES SYSTEM DATA

- *The UFH pipe is:*
  - 16x2mm 5-Layer PERT
- *The pipe can be installed in:*
  - A serpentine 'up-and-down' pattern
- *The pipe centres can be:*
  - 200mm
- *Minimum insulation depth:*
  - 0mm

TYPICAL FIT FROM ABOVE PLATES SYSTEM SECTION:

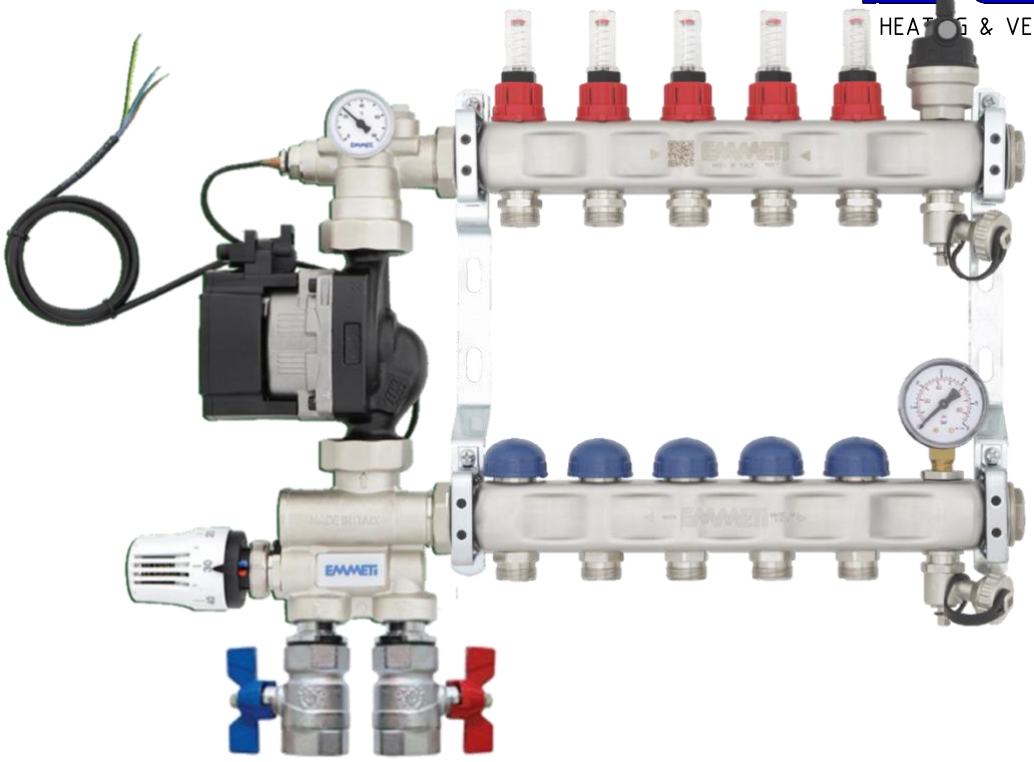


TYPICAL FIT FROM ABOVE PLATES SYSTEM HEAT OUTPUTS:

FLOOR FINISH	**TOG RATING**	**WATER FLOW TEMPERATURE**	
		55 @ 200cc	45 @ 200cc
TILES	0.1 TOG	78W/m²	53W/m²
15mm ENGINEERED WOOD	1.0 TOG	61W/m²	40W/m²
CARPET	2.0 TOG	49W/m²	33W/m²

INSTALLATION PROCEDURES

1 – BUILDING AND MOUNTING YOUR MANIFOLD



- Locate the manifold items (described above)
- Assemble the manifold pump section:
    - Locate the pump set, isolation valves, compression barrels.
    - Fit isolation valves to bottom of pump set, taking note of direction arrows to ensure red/blue valves are on the correct way.
    - Screw compression barrels into isolation valves. PTFE tape or pipe glue such as Loctite required to create a seal.
    - Located two flat rubber washers from manifold arms box and place inside of manifold arm connection nuts.
    - Locate the pump set onto the manifold arms and do up nuts ensuring washers are in place.
- Once the manifold is built, you can mount it to the wall. The wall should be structurally sound and be able to take the weight of the manifold.
- If mounting to a solid wall:
    - Ensure that the holes are accurately measured and marked before drilling any holes.
    - We would recommend that you drill 8mm drill holes and brown plugs are used, with 5mm wide screws at the length required.
    - Once the manifold is on and the screws are tightened, check the level of the manifold. If it is out of level, loosen the screws to correct and re-tighten.
- If mounting to a timber:
    - Use 5mm screws at the length required on site with penny washers.
    - Once the manifold is on and the screws are tightened, check the level of the manifold. If it is out of level, loosen the screws to correct and re-tighten.
- Changing the pump orientation if required:
    - Using water pump pliers, loosen the pumps nuts.
    - Turn the pump so that the display is facing forwards.
    - Using water pump pliers, tighten the pump nuts.

2 – *FLOOR PREPERATION*

- Ensure that joists are clear of any nails/screws.

3 – *INSTALLATION OF FIT FROM ABOVE PLATES*

- Referring to your UFHPro design, joists need to be notched where pipes cross them. This should be a minimum of 25mm deep to allow for a nail clip, and a minimum of 25mm wide per pipe.
- Referring to your UFHPro design again, start to arrange your Fit from Above Plates to the joists. The plates are a metre long, and can be 'snapped' down to either 250mm, 500mm or 750mm long. This may be referred to as a full plate, a 3/4 plate, a 1/2 plate and a 1/4 plate on the design.
- You should allow for 150mm from the edge of the plate to the end of the pipe curve.
- Fit from Above plates can be fixed to joists using wood screws, plasterboard boards or narrow crown staples.
- NOTE when fixing the plates down, ensure that the plates are flat so that they stay in contact with the subfloor when it is laid.

4 – *LAYING THE PIPEWORK*

- On the pipe wall there is a series of text, this occurs on every metre of pipe. Make a note of the length displayed IE "239m".
- Connect the end of the pipe to the first port on the manifold, by pushing the pipe manifold connector onto the pipe and then screwing this onto the male thread on the manifold arms. This should be hand-tight, and then tightened using a spanner for a further half-a-turn.
- Attach the 90° Pipe Bend.
- Push the pipe into the channels of the panels.
- Start running the pipe in a serpentine pattern, the channels in the plates will hold the pipe into the panels.
- Once you get back to the manifold, attach the 90° Pipe Bend level with the one installed earlier.
- Cut the pipe so that it is level with the manifold port that directly under the one attached in Step 2 using plastic pipe cutters, making a note of the metreage marking on the pipe wall.
- Mark on the manifold port the room name, and the actual pipe length from the metreage markings. If the 'flow' is 239m and the return is 182m, then the pipe length is 57m for example.
- Push the pipe manifold connector onto the pipe and then screw this onto the male thread on the manifold arms. This should be hand-tight, and then tightened using a spanner for a further half-a-turn.
- Repeat this step for every pipe that needs to be installed.

5 – *PRESSURE TESTING*

- Once all the pipework is installed and connected to the manifold, the manifold should be pressure tested. Pressure testing is important for the following reasons:
    i. To ensure there is not a leak on any pipework.
    ii. To ensure everything is tightened up on the manifold.
    iii. The pipework expands slightly under pressure, and it is best to be at its biggest when screeding.
- You can pressure test with water (Hydraulic Testing) or with air (Pneumatic Testing).

5A – HYDRAULIC TESTING PROCEDURE

- Close the isolation valves on the manifold pump set.
- Open the flow meter and the blue cap on the first manifold port. The flow meters are the plastic bottles on the top arm of the manifold with the red surround, and the blue caps are on the bottom arm of the manifold. NOTE flow meters come with two adjustments. One is to adjust the flow of water through each manifold port (you will see the black hexagonal nut turn with the bottle), and a port isolator which is located under the black hexagonal nut. This can be opened or closed without losing the manifold flow setting.
- Close the flow meters and blue caps on all the other manifold ports.
- Attach a hose to the filling point on the top arm of the manifold which is connected to a water main, and another hose on the drain point on the bottom arm of the manifold to somewhere that water can drain. Both are ¾" connections, just like an outside tap.
- Using the cap of each fill/drain point, open each valve by placing the head of the cap on the square piece on the underside each valve and turn anticlockwise to open them.
- Turn the water on at the mains point so that water to run to the manifold and through the pipe.
- Once a clear flow of water is exiting the manifold, close the blue cap of the first port and then the flow meter,
- Open the flow meter and the blue cap of the second port. Wait until a constant clear flow of water is exiting the manifold, then close the blue cap and then the flow meter.
- Repeat this until every pipe is filled with water across the manifold.
- Open all the manifold ports up by opening the flow meters and the blue caps.
- Have both the fill/drain point caps ready to think about closing both valves.
- Start to close the drain-point valve so that the mains water builds pressure through the manifold, keeping an eye on the pressure gauge.
- Once the pressure starts to exceed 3BAR, close both valves.
- Depending on how much pipe has been installed with that manifold, the pressure may drop slightly, this is normal as the pressure starts to be released from the manifold to the pipe across the floor. You can gradually start to add pressure by sensibly and slowly opening the filling point valve to let water in.
- Once the system pressure has stabilised, it should be left for a minimum of 30 minutes to ensure the system is sealed. This is your opportunity to inspect the system visually. Check that there are no apparent leaks on the pipework or puddles around it, and check that there are no visible leaks on the manifold.
- Once pressure testing has been complete, release the pressure down to 1.5BAR for screeding.
- Ensure that the fill and drain valves are shut.
- All hoses can be removed.

5B – PNEUMATIC TESTING PROCEDURE

- Close the isolation valves on the pump set, and the drain point on the bottom arm of the manifold.
- Open the fill point on the top arm of the manifold.
- Ensure that every flow meter and blue cap is open.
- Attach a hose using the ¾" connection on the fill point.
- Pump up with air to 3BAR and close the fill point valve.
- Leave under pressure for a minimum of 30 minutes to ensure the system is sealed. This is your opportunity to inspect the system visually. Check that there are no apparent leaks on the pipework and check that there are no leaks on the manifold.
- Once pressure testing has been complete, release the pressure down to 1.5BAR for screeding.
- Ensure that the fill and drain valves are shut.
- All hoses can be removed.

INSTALLATION CERTIFICATE

PROJECT NAME

PROJECT REFERENCE

DATE THAT UFH INSTALLATION WAS COMPLETED

MANIFOLD LOCATION

FLOOR TYPE & BACH SYSTEM

UFH CIRCUIT ROOM NAMES

CIRCUIT 1:	CIRCUIT 2:	CIRCUIT 3:
CIRCUIT 4:	CIRCUIT 5:	CIRCUIT 6:
CIRCUIT 7:	CIRCUIT 8:	CIRCUIT 9:
CIRCUIT 10:	CIRCUIT 11:	CIRCUIT 12:

UFH PIPE LENGTHS - AS FITTED

CIRCUIT 1:	CIRCUIT 2:	CIRCUIT 3:
CIRCUIT 4:	CIRCUIT 5:	CIRCUIT 6:
CIRCUIT 7:	CIRCUIT 8:	CIRCUIT 9:
CIRCUIT 10:	CIRCUIT 11:	CIRCUIT 12:

TEST TYPE

PRESSURE OF TEST

UFH INSTALLER