

UFH Fault Finding Sheet

If your underfloor heating system is not performing or working correctly, below are a few things to check.

- Check that you have no **air** at all inside the system. When filling the system, do NOT fill from the boiler. Fill the UFH system as described in the instructions i.e. by using hose pipes and filling each loop one by one. Far too often the plumber might still inject air in the system afterwards, when connecting flow and return pipes from the boiler. Over the decades we have found that this is the most common issue if the system doesn't perform.
- Check that the manifold **pump** is running on speed 3 which is the maximum speed. Also installed the correct way with its arrow pointing towards the flow manifold.
- Check the **mixing valve setting** at manifold. During installation the installer should leave the mixing valve at its minimum setting, as a precaution. When the system is finally started, the temperature setting should slowly be changed by a degree per day until you reach the required temperature. Normal settings are 45 degrees C for concrete floors and 55 degrees C for timber suspended floors. You will find the indication mark on the mixer cap. Turn the valve anticlockwise for higher water temperature or clockwise for lower temperature.
- Check that the **flow and return pipes** from the boiler to the mixing valve are correctly fitted. Flow (H) is closer to the wall on the mixing valve. Although it should not happen, we are aware of at least one boiler connection where the pipes were fitted vice versa.
- Check that the **thermostats** are controlling the correct actuators and correct loops. If the electrical connections are wrong, one or more rooms would always be too warm or cold. To make sure the connections are correct, try one thermostat at a time and wait a few minutes until you can see that they do open the anticipated actuator(s). An electrical test will also clarify the problem.
- Far too often there are plumbers who do not **flush** through the central heating system or do not **add inhibitor** to the central heating system. If this is not done debris can get into the boiler pump and block it, also the mixing valve and the underfloor heating pump may sooner or later suffer from the same faith. This issue is more familiar with extensions and renovation projects, where the property has a mixture of radiators and underfloor heating. If the mixer would get blocked, take out the mixing valve and clean it with hot water, then flush the system before fitting the mixing valve back again. A symptom of a blocked mixing valve could be that the flow metres at the manifold will show a decreased flow rate after having used the system for a year or so.

- Is one room colder compared to the other rooms served by the same manifold? If so, you can check if it is possible to **increase the flow rate** for the circuit in question. You can also reduce the flow rate for some of the other circuits. The shortest circuits normally need less flow into them compared to the longer ones. See our manual for adjusting the loops. If you have radiators in your property, they should also be adjusted to have the correct balance between the two systems.
- Could you have a faulty **actuator** on the manifold? When the room thermostat(s) call for heat, the UFH pump will start and the actuator(s) for the zone in question will open and let water into its circuit(s). It takes 3 to 4 minutes until it is fully open. It is important that the actuators are fitted tightly onto the return manifold.
- Have you chosen a sensible and practical programme for your programmable thermostats? In normal circumstances the room thermostats should be set to 20 – 21 degrees C during the periods of heat request. This is normal UK design inside temperature. Ofcourse some occupants prefer some rooms slightly warmer or colder.
- The system should be on **24 hours a day** during the heating season, using night set-back to lower requested temperatures overnight. This means that the heating system does not come on at night unless required, while at the same time it is quick to respond in the morning. When started for the first time, it may take 24 hours for the system to perform satisfactorily.
- When the system is up and running there should be water entering into each open loop. If the **flow metres** show no flow at all then there could be too much air in the system. Alternatively the actuator could be faulty or wrongly fitted, or the flow rate has been reduced too much.
- If the **manifold pump** is not running, check that the electrician has wired it in correctly. L and N does not go into the relay, see our manual. The pump should start straight away upon heat request of any of the thermostats.
- If you have a combination boiler, check that it will work with a secondary pump before fitting the UFH system.
- The correct way to fit an UFH system in most properties is with an S-Plan system. This means installing a **two port zone valve** for each system, which means that both the radiator system and the UFH system will have independent control and you can run them at different times etc.
- The boiler relay normally gives power to a two port valve and the volt free contacts on the two port valve will start the boiler, i.e. like and S-Plan system. If no two port valves are fitted then use the boiler relay as a Volt free contact.
- Max heat output for any wet UFH system is 100 W/m² with concrete floors and 70 W/m² with timber suspended floors. Properties should be built to current building regulations for any system to work correctly. Some conservatories may lose more heat than 100 W/m² hence there can be no guarantees that UFH will perform all year around. The system will extend the time you can use the conservatory.