

**Before you start:** Check the Pumpset box contents against the list below.

### Check the contents

1. Top elbow and temp gauge
2. Water pump & washers
3. Bottom elbow and temp gauge
4. Thermostatic blend valve and probe
5. Adjustable boiler return valve
6. Manifold end blank
7. Adapter bush

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4. Thermostatic blend valve and probe



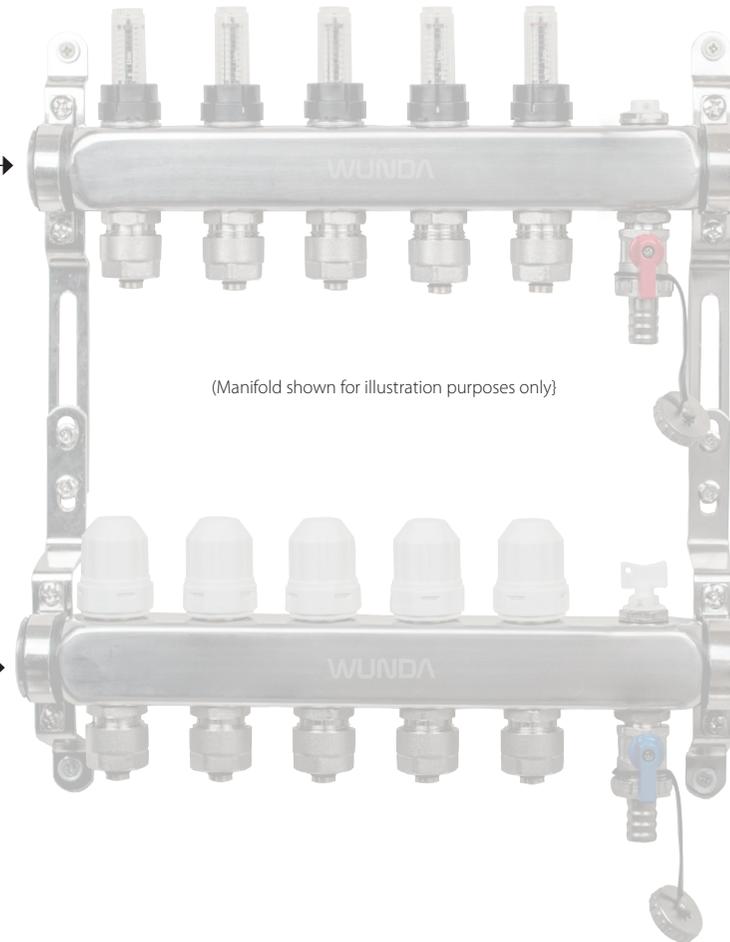
2. Water Pump & washers



1. Top elbow and temp gauge



3. Bottom elbow and temp gauge



6. Manifold end blank

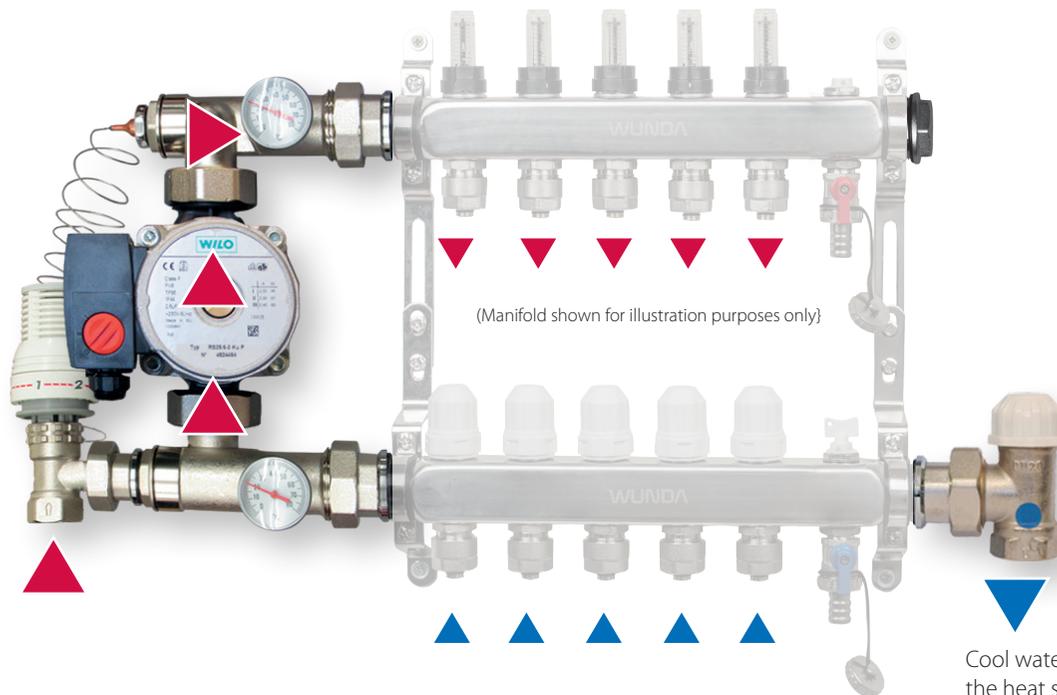
7. Adapter Bush



5. Adjustable boiler return valve

In the unlikely event of any shortage please contact us and a replacement will be despatched immediately. Tel. 0800 5420 816

### Flow Bar



Warm water from heat source enters

### Return Bar

Cool water returns to the heat source for reheating

## Understanding how the pumpset works

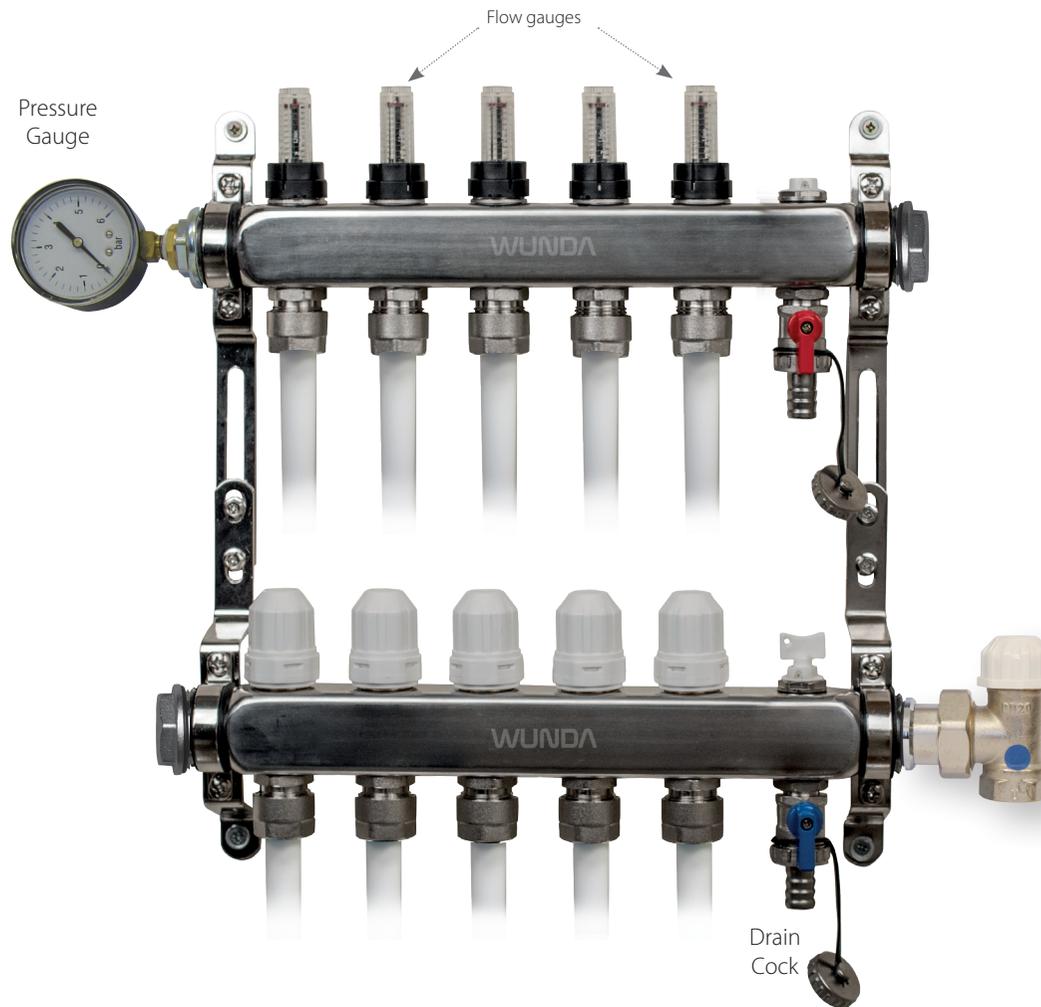
Warm water is pumped from the heat source to the manifold assembly. If the system requires a top up of heated water, the thermostatic blend valve will allow more heated water into the system or release it back to the boiler for re-heating.

From the flow bar, warm water is distributed to each loop of pipe via the adjustable flow gauges, returning via the return valves into the return bar.

When the room reaches the required temperature, the room thermostat sends a signal to switch the pump off. This shuts off the water supply to the coils of pipe in the floor and therefore shuts off the heat supply to that zone.

Before assembly of manifold or pressure test, familiarise yourself with the way the manifold works and the various stages of assembly.

### Manifold pressure test

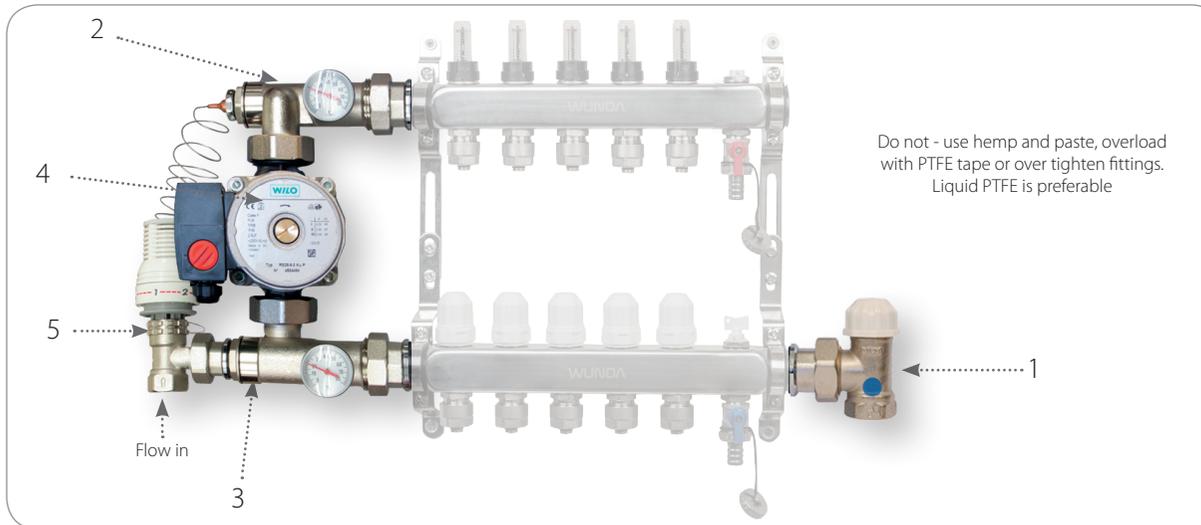


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### Pressure test kit available from Wunda

1. Using 1 inch - 1/2 inch bush, fit a standard pressure gauge to the top left flow bar
2. Fit manifold blank to left hand end of return bar
3. Fit cold mains hose to the flow drain tap (red) and drain hose attachment to the return drain tap (blue).
4. Close all valves (clockwise), including flow gauges, Manual return valves, boiler return valve and close both drain taps.
5. Introduce water into the manifold by opening the flow bar drain tap (red) allow pressure to rise until 4 bar is reached.
6. Close flow bar drain tap and hold under pressure for 10 minutes, check for any leaks.
7. Open right hand flow gauge and corresponding manual return valve, the flow meter will move erratically until a steady flow is achieved through this circuit. By placing the end of the waste hose in a bucket it is possible to see when all air has been purged from this loop by a reduction in bubbles.
8. Once filled close manual return valve and repeat exercise with each individual pipe loop.
9. Once all loops are filled close drain cock, re-pressurizing completed manifold to 4 bar and leave on test for a minimum of 3 hours.
10. It is advisable to leave system pressurised during laying of all floors to indicate any possible damage to pipe.

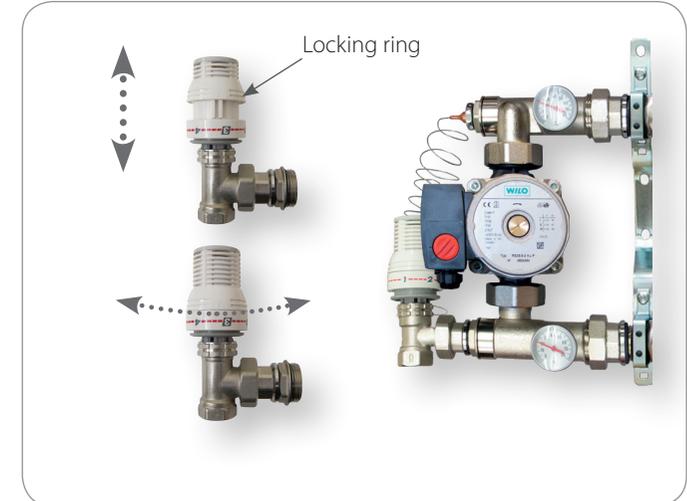
### Mounting Pumpset onto Manifold



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- 1) If mounting standard pumpset onto a Wunda Premium Manifold, remove the lower manifold end blank, (right hand end of return bar) and replace with boiler return valve using bush to mount the valve.
- 2) Assemble top flow elbow to the left hand end of the manifold flow bar.
- 3) Assemble bottom return elbow onto the left hand end of the return bar.
- 4) Mount pump between top and bottom elbows, ensuring pump washers are fitted and checking correct orientation of pump (flow up into top bar).
- 5) Install thermostatic blend valve into the bottom return elbow, fit the probe sensor into the housing on the top flow elbow and secure with the grub screw on housing.
- 6) Insert both temperature gauges into the sockets on the flow and return elbows.
- 7) Boiler return valve should be open one and a half turns from closed.
- 8) Check all fittings are secure and tight, check again when commissioning manifold and system.

### Flow temperature setting



To protect **floor surfaces and have the correct** settings for floor constructions, set the blend valve thermostatic head by turning the numbered ring so that the specified temperature for that floor construction and floor covering is shown by the manifold flow bar temperature gauge.

- Solid / screed floor setting 45°C\*.
- Overlay panel setting 35°C\*.
- Multi panel in screed setting 45°C\*.
- Joisted – foiltec construction setting 65°C\*.

\*Many floor finishes require limiting floor surface temperatures, in which case a probe must be installed. Check with final floor finish supplier before introducing warm water into the floor heating system.

Once specified temp is set and to protect the floor constructions being served, you can limit  $\leftarrow$  or  $\rightarrow$  lock blend valve thermostatic head by lifting the locking ring and turning to the limit  $\leftarrow$  or  $\rightarrow$  lock symbol then replace locking ring.

## Supplementary information.

### Floor surface temperatures

Before introducing heat into the floor heating system check with the final floor finish supplier about maximum floor surface temperatures.

Generally a maximum floor surface temperature of 29°C should not be exceeded however many wooden floor finishes have a maximum floor surface temperature of 27 °C and must be laid in conjunction with relevant underlay and moisture barriers.

We advise the use of floor probes in conjunction with room thermostats be used in order to limit floor surface temperatures and avoid damage to chosen floor finish.

In particularly large areas several probes and thermostats may be required.

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### Wooden floor coverings

When installing wooden floor coverings over floor heating the floor surface temperature must not exceed 27 °C. Floor probes in conjunction with room thermostats must be used in order to limit floor surface temperatures and avoid damage to wooden floors. Expansion gaps must be used to allow for expansion and contraction movement of the wooden flooring as specified by flooring suppliers. Birch and Maple are not suitable for use with floor heating due to excessive amounts of expansion. Laminates and engineered woods less than 25mm thick work well with floor heating. All wood flooring products must be acclimatised to the heating system and its operational temperatures by following suppliers guide lines.

### Water Treatment (required to comply with product guarantee)

Specialist water treatment suppliers such as Sentinal or Fernox will be able to advise on all water treatment issues and dosage requirements. Flushing should be in accordance with BS:7593 to ensure awareness of the preparation of the water circuit for the wet heating systems prior to initial commissioning following major remedial work such as boiler replacement and the ongoing water

treatment to ensure continued efficiency. The water volume in a 16mm pipe Floor Heating system can be calculated by multiplying the total linear length of Floor Heating pipe by a factor of 0.113 this will give the volume of water in litres.

In order to minimise corrosion, treatment of the water with an inhibitor is essential, however, for a corrosion inhibitor to function effectively, the metal surfaces must be clean. The British Standard Code of Practice BS 7593: 1992 details the steps necessary to clean a domestic central heating system. The Code recognises that it is not possible to clean a system without the application of a cleanser. Different products may be used depending on the nature of the system involved.

The most effective corrosion inhibitors act by reacting with the surface of the metal to produce a protective film in the form of a stable complex. The effectiveness of a given corrosion inhibitor will depend on its concentration.

In a multi-metal system, the product selected should contain a blend of inhibitors such that each metal is afforded good protection. In addition to the usual metals and alloys, e.g., iron, copper, steel and brass, special consideration must be afforded to aluminium.

Normally this metal is protected by a film of aluminium oxide which prevents corrosion in water (or in air), but under acid or strongly alkaline conditions the oxide film dissolves exposing the metal. Some waters found in the UK will give rise to sufficiently alkaline conditions in a central heating system to promote corrosion of aluminium and the gassing associated.

An increasing number of central heating systems contain aluminium so it is advisable that a neutral (neither acid nor alkaline) corrosion inhibitor product is selected in every case.

Consideration should be given to adding antifreeze to the floor heating system especially during the winter months.

### Important

*"When mixed floor solutions are being served from the same manifold, a floor probe must be used in the floor solution with the lower maximum supply temperature. This is to limit the temperature in these floor areas and prevent damage to the floor solution and/or floor finish."*

Wunda Group Plc operates a continuous product development programme to maintain our reputation for quality products and as such we do occasionally modify or amend the specification of our products in line with our strict quality control policy. Maintenance of the floor heating system is straightforward and the pump, manifold, gauges, valves and actuators are designed for continuous operation over many years. Wunda Group Plc recommends regular use of floor heating systems, this will ensure flow gauges, pumps and valves are kept in good working order.

All information in this publication is given in good faith, and believed to be correct at time of going to press. No responsibility can be accepted for any errors, omissions or incorrect assumptions. Users should satisfy themselves that products are suitable for the intended purpose and application.

## Your Notes:

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Tech support, opening hours, live chat & video tutorials - [www.wundafloorheating.co.uk](http://www.wundafloorheating.co.uk)

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