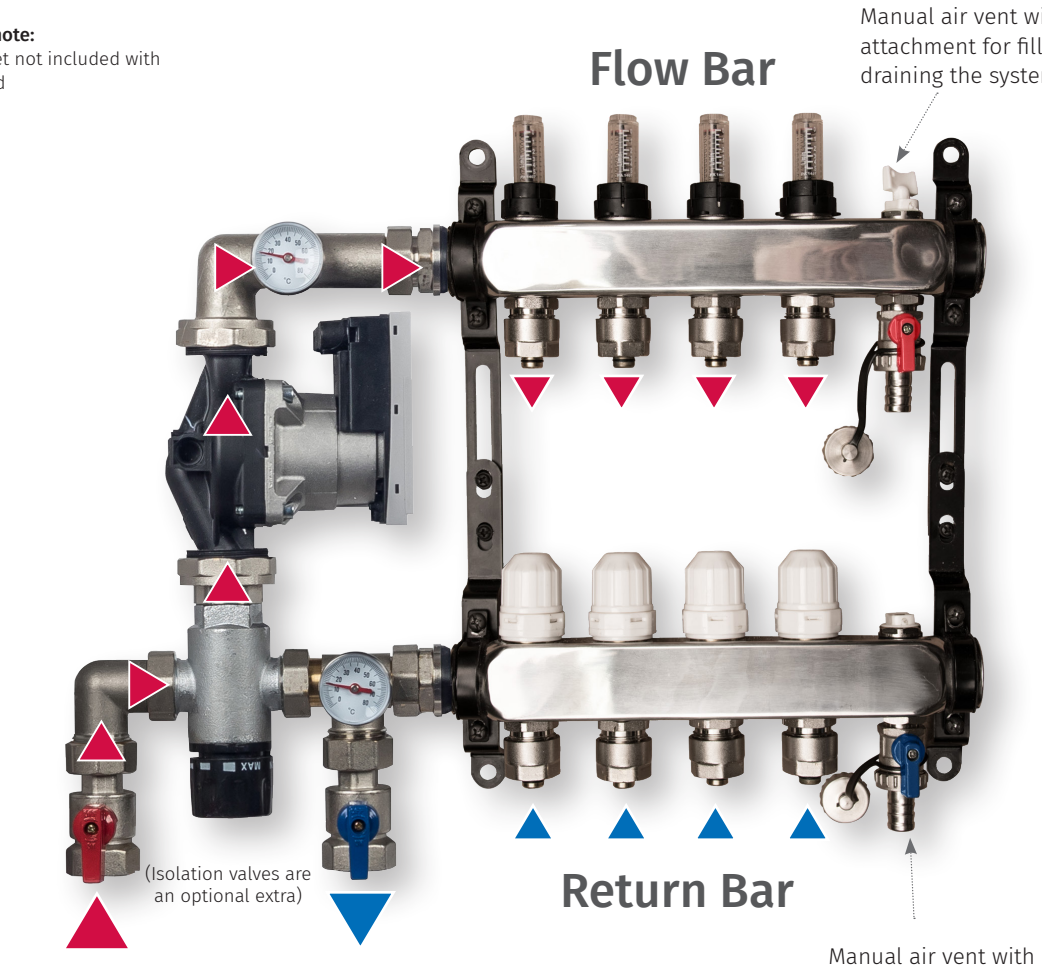
1

Please note:
Pump set not included with manifold



Understanding how the manifold & Pumpset work

Warm water is pumped from the heat source to the manifold and pumpset assembly. If the system requires a top up of heated water, the temperature control valve will allow more heated water into the floor heating system via a one-way valve or release cooled water back to the heat source for re-heating.

Temperature input is easily increased or decreased by turning the mixer valve control head. Clockwise closes the valve and decreases the flow temperature, anti-clockwise opens the valve and increases flow temperature (see page 6) .

From the upper flow bar, warm water is distributed to each loop of floor heating pipe via a flow gauge. The water then returns via the return valves into the lower return bar.

When the room reaches the required temperature the room thermostat sends a signal to the wiring centre to switch off the circulating pump and close the actuators. This shuts off the water supply to the loops of pipe in the floor and therefore shuts off the heat supply to that zone.

Before assembly of the manifold, pumpset or pressure testing, familiarise yourself with the various stages of assembly and the relevant fact sheet. We also advise to watch the online tutorials and technical support videos.

Free Technical support - 01291634140

WUNDA
THE BRAND YOU CAN TRUST

Check the Contents

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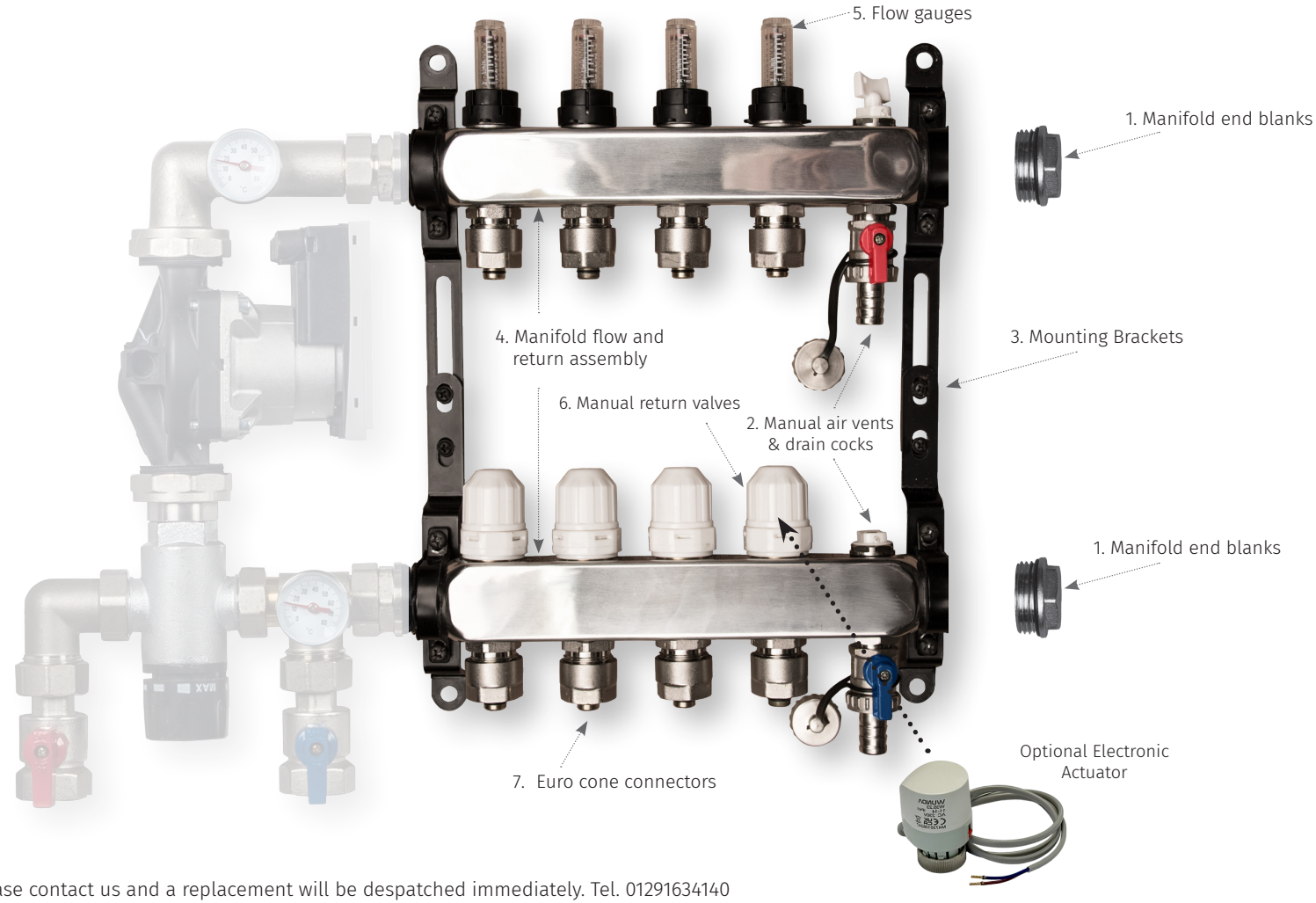
M07

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

Check the contents

1. 2 x Manifold end blanks
2. 2 x Manual air vent & drain cocks
3. 2x mounting brackets
4. Manifold flow & return bar assembly
5. Flow gauges
6. Manual return valves
7. Euro cone connectors



In the unlikely event of any shortage please contact us and a replacement will be despatched immediately. Tel. 01291634140

Revision date: 21/05/2025

Manifold Mounting & Pipe Connection

If you are mounting the manifold directly to the wall, make sure the bottom bar of the manifold is a minimum of 200mm from the floor.

Before connecting floor pipes to the manifold ensure each loop of pipe has been identified using a permanent marker and that flow and return is clearly marked.

Open Wunda pipe cutters by pulling the handles fully open (pic B), ensure all pipes are cut cleanly and squarely being careful not to cut the pipe short or it will not reach the manifold.
The freshly cut end of pipe must now be reamed using a Wunda reamer (pic C) insert the reamer fully into the end of the pipe so that the pipe is in contact with the 3 cutting teeth (pic D) push and turn the reamer clockwise 2-3 full turns, this will give the pipe a chamfered finish.

A good tip is to grip the pipe wearing a rubber glove, this will stop the pipe twisting in your hand.

Place the threaded pipe connector over the prepared pipe followed by the olive, push pipe insert into the end of the pipe ensuring it is fully seated against the end of the pipe (pic E).

Pipe is now ready to be connected to the manifold ensure the connector is tightened sufficiently using a 27mm spanner (pic F,G & H)

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Manifold Pressure Test

Before pressure testing ensure all floor heating loops have been laid and all connections and pipes are tightened. Ensure isolation valves are fully closed (pic A)

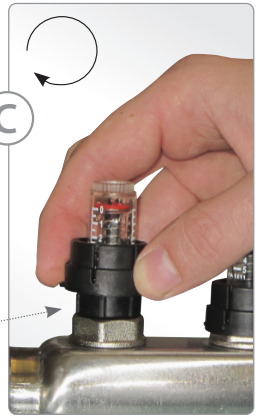
A

B

4

Close both manual Air vents and both drain/fill taps (pic B) close all flow gauges by turning sight glass clockwise (pic C) and turning black plastic lock ring at base of sight glass clockwise until shut. Turn white return valve manual heads (pic D) by turning clockwise again until shut.

C

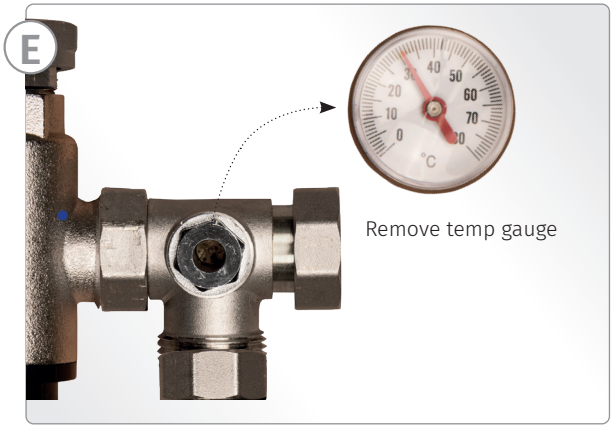


D

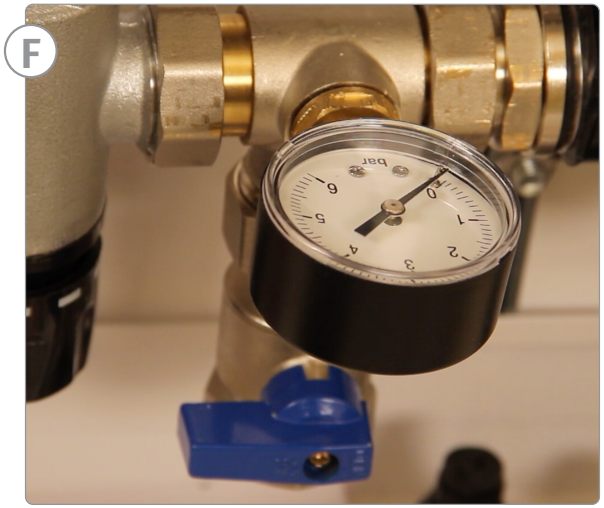
Remove lower temperature gauge and unscrew brass housing (pic E) Screw pressure gauge* into the exposed aperture, PTFE may be required to seal) (pic F)

**not supplied with manifold but available from Wunda*

E



F



Connect the mains supply hose to the top flow bar red tap. Connect the drain off hose to the lower return bar blue tap, place the end of the drain hose into a bucket. Open both the red and blue drain taps, turn on the mains water supply to the fill hose.

Starting at the pump side of the manifold, open the first, flow gauge by turning the black nut at the base of the flow gauge clockwise until shut.

Open the corresponding manual return valve, directly below the flow gauge that has been opened. (pic G)

G

***Locking clips not supplied as standard. If you wish to have them, please get in touch and we can arrange to send them.**

The flow gauge will start to move erratically until a steady flow of water is achieved through this loop of pipe. (pic H)

H

5

By placing the end of the drain hose in the bucket it is possible to see when all air has been purged from this loop by the reduction in bubbles. (pic I)

I

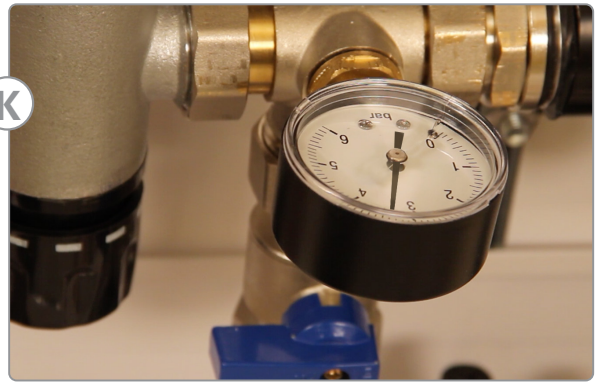
When a steady flow is achieved and ALL air has been passed, close the manual return valve on the return bar, leaving the flow gauge open. (pic G previous page) Repeat this exercise with each individual loop, one at a time.

Once all floor heating loops have been filled with water and purged of any air, close the blue drain tap on the lower return bar. Open the manual air vent on the top flow bar, any air trapped in the flow bar will be forced out of the air vent, close the air vent after ALL air has been expelled. (pic J)

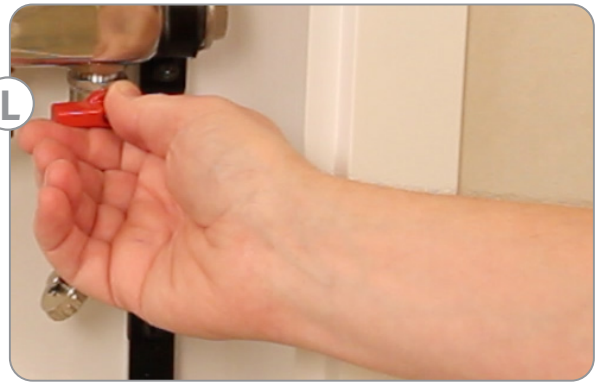
J

Re-open all return valves. And open the air vent on the return bar, close when all air has been vented. Allow the pressure to rise to 3-4 bar, (pic K) close the red tap on the flow bar (pic L). Turn off the mains water supply hose at source and leave the system under pressure for a minimum of 3 hours.

K



L



If pressure drops investigate and remedy, the mains water supply hose can be removed, leave the drain hose in place as this will be required to release the pressure at a later stage.
It is good practice to leave the system under pressure whilst laying of final floor finish to indicate any possible damage to the loops of pipe.

When you are fully satisfied that the system is pressure tight. Shut all flow gauges, return valves, isolation valves. release the manifold pressure through a drain hose connected to the return bar blue drain cock. Briefly open the drain tap, then re-close. remove the pressure gauge and re-fit temperature gauge and housing. Now it can be connected to the heat source by a qualified professional and a suitable inhibitor added.

PLEASE NOTE:
Do not leave an un-commissioned system filled with water and unprotected from freezing conditions - introduce & circulate a suitable inhibited antifreeze or alternatively the water should be forced out of the UFH pies using a compressor.

Free technical support call 01291634140

Flow rate settings

1a

2a

6

IMPORTANT: Adjust by hand only and do not force beyond two full turns from shut as this may cause damage to the flow meter.

Do not use pliers or grips to adjust flow gauges.

To adjust, remove lock clip (see pic.1) and turn black nut of flow meter by hand (see pic 2).

- **clockwise** to **decrease** flow rate.
- **anti-clockwise** to **increase** flow rate.

- Flow rate is indicated by red marker in flow meter.
- Check with table in pic 3. to match Lts / Min with length of each pipe run.
- Refit lock clip to hold each flow meter at adjusted setting.

3a

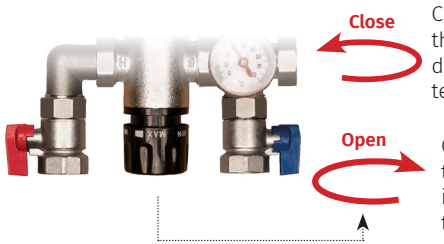
Approximate Flow Rate Guide*

Length of heating** circuit (Metres)	Flow rate (litres per min)
20	0.5
30	0.6
40	0.8
50	1.2
60	1.4
70	1.7
80	1.9
90	2.3
100	2.5
110	2.8
120	3.0

Flow input temperature setting

To protect final floor finish and have the correct settings for floor constructions, the mixer valve must be set correctly. Flow temperature input is adjusted by turning the black temperature control knob. Clockwise reduces flow temperature and anti clockwise increases flow temperature.

Adjust the flow temperature to suit the floor construction and floor finish. Flow temperature is indicated by the temperature gauge on the top flow elbow.



Close (reducing the gap) decreases flow temperature

Open (increasing the gap) increases flow temperature

- Pipe in Overfloor panel systems 35°C*.
- Pipe in Solid screed construction (staples, cliptrack, multipanel) 45°C*.
- Pipe in Joisted floor construction (spreader plate 55°C*.

* Check with floor finish suppliers before introducing warm water into the floor heating system as some flooring materials, in particular wood, require limiting of floor surface temperatures. Floor surface temperatures can be automatically controlled with the installation of our floor probe and correct thermostat programming.

***NOTE Flow rates may be increased or decreased to adjust performance. A flow and return temperature differential of approx 7°C is preferred.**

If two pipe circuits are attached to one port with a 'Y' connector, then both lengths should be added when working out flow rate.

****NOTE The maximum advisable circuit lengths are:**
16mm pipe – 100m per circuit
12mm pipe – 60m per circuit

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 29ºC should not be exceeded however many wooden floor finishes have a maximum floor surface temperature of 27 ºC and must be layed 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.

Wooden floor coverings

When installing wooden floor coverings over floor heating the floor surface temperature must not exceed 27 ºC. 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, and, for a 12mm system by a factor of 0.061. 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.

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