

Before you start: Check the pump station contents against the list below.

Check the contents

1. Top pump connector and flow temperature gauge.
2. Circulating pump and washers.
3. bottom pump connector and return temperature gauge.
4. ESBE Temperature control valve
There are two versions available:
VTA322 for 2-5 port manifolds up to 60°C
VTA572 for 6-12 port manifolds up to 70°C

1

1. Top pump connector and flow temperature gauge.



2. Circulating pump and washers.



4. ESBE temperature control valve.
*Small ESBE valve illustrated.

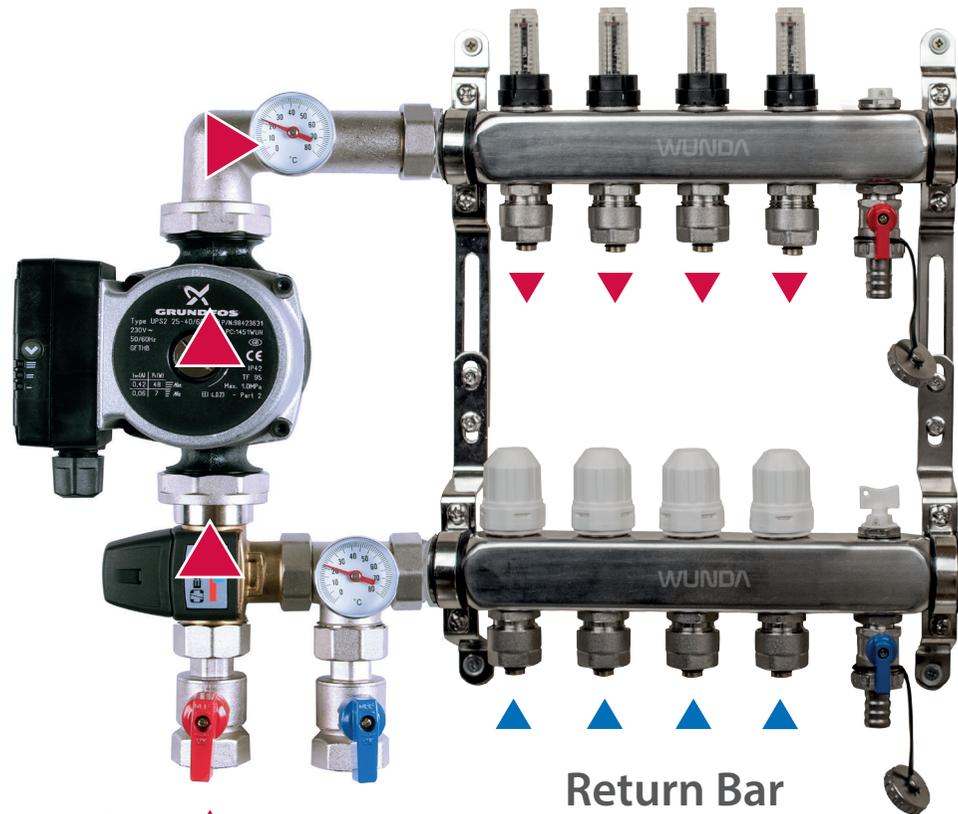


3. bottom connector with return temperature gauge.



This guide is specific to our ESBE temperature control pump station and should be used in conjunction with the relevant Manifold user guide.

Flow Bar



Warm water from heat source enters

Cool water returns to the heat source for reheating

Return Bar

Understanding how the ESBE pump station works

Warm water is pumped from the heat source to the pump set and manifold assembly. If the floor heating system requires a top up of heated water, the mixing valve will allow more heated water into the system via the inlet or release cooled water back to the heat source via the outlet. From the flow bar, warm water is distributed to each loop of pipe via the adjustable flow gauges, returning via the valves into the return bar.

Once the room to be heated reaches the required temperature, the room thermostat sends a signal to switch the pump off and close the actuators (if actuators are fitted). This shuts off the water supply to the loops of pipe in the floor and therefore shuts off the heat supply.

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

This stage should be carried out by a suitably qualified professional. The same assembly steps should be followed for both small and large ESBE valves. It's good practice to use PTFE tape on every connection but beware not to over use. Hemp and Paste on connections is not advised.



Assemble bottom pump holder by connecting the return temperature gauge, ESBE mixing valve and pump connector.



Assemble top and bottom pump holders onto the pump, ensuring pump washers are positioned correctly. Do-not overtighten pump connections at this stage.



Remove top and bottom pump holder adaptors from the pump holders.

3



Screw the pump holder adaptors into the left hand end Flow and Return bars tighten adaptors ensuring rubber O-rings are in place and seated correctly against manifold bars forming a water tight seal.



Now the pump set and connectors can be attached to the manifold via the adaptors. Ensure all connections are secured, tightened and that all relevant washers and seals are correctly fitted.

Adjusting the flow temperature



A good practice is to fit isolation valves when installing the manifold & pumpset (sold separately). To protect floor surfaces and floor coverings it is important to set the correct flow temperature for your floor construction.

4

This ESBE temperature control valve must be set to the specified temperature required and adjusted to the required temperature shown in the 'Flow' temperature gauge.



To adjust the control valve temperature first remove the protective cap. (Small ESBE valve only)



The temperature is increased or decreased by turning the control knob (1-6) . The higher a number is set will result in a higher temperature reading, likewise lowering the number setting will decrease the temperature.

Example settings..

Solid/screed * 45C
Overfloor *35C
Multipanel * 45C
Joisted * 65C

These figures are only a guide, environmental conditions such as insulation levels, ventilation, room size will need to be considered when setting temperatures.

Many floor finishes require limiting the floor surface temperature, this is achieved using a thermostat and floor probe. Once required temperature has been achieved – replace the protective cap to the ESBE valve.

Flow rates and final manifold commissioning should be set in accordance with the correct manifold user guide.

The manifold and pump set can now be filled with water and commissioned in accordance with our user guide/video – manifold pressure testing MO4. Ensure the pump is filled and vented, set floor heating to call for heat and then select desired pump setting in accordance with pump user guide.

Temperature control 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.

5

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:

6

Tech support opening hours are subject to change - please visit our website for the latest information