

MANIFOLDS AND MIXING PUMP UNITS

assembly | adjustment | operation

Stainless steel manifolds for TiA underfloor heating

Stainless steel manifolds for TiA floor heating are intended for use in low-temperature heating systems and are used to distribute heat to individual floor heating loops. Each type consists of two beams on an inch profile ended with a 1" thread. They are available in various sizes, ranging from 2 to 12 heating circuits.

The supply beam is equipped with flow meters to balance the flow of the heating medium between the loops and with reducing nipples $\frac{1}{2}$ " – $\frac{3}{4}$ " compatible with compression fittings for plastic pipes on each section.

The collecting manifold is equipped with shut-off valves with M30x1.5 mm connection thread.

Each manifold is delivered in a set with mounting brackets with a spacing of 210 or 235 mm.

TiA underfloor heating manifolds, depending on the version, can be equipped with additional elements according to the table below:

	Standard CR	(*)Standard CR +1	Platinum M	Platinum A
Venting and draining section with manual air vent	-	-	+	-
Venting and draining section with automatic air ven	-	-	-	+
Drain valve and a manual or automatic air vent mounted on the additional section of the manifold	-	+	-	-
Compression fittings for plastic pipes $\frac{3}{4}$ " - 16 x 2.0 mm	-	-	+	+

(*) CR+1 standard version has one additional section which is not used as a floor heating circuit. It has a factory fitted air vent and drain valve.

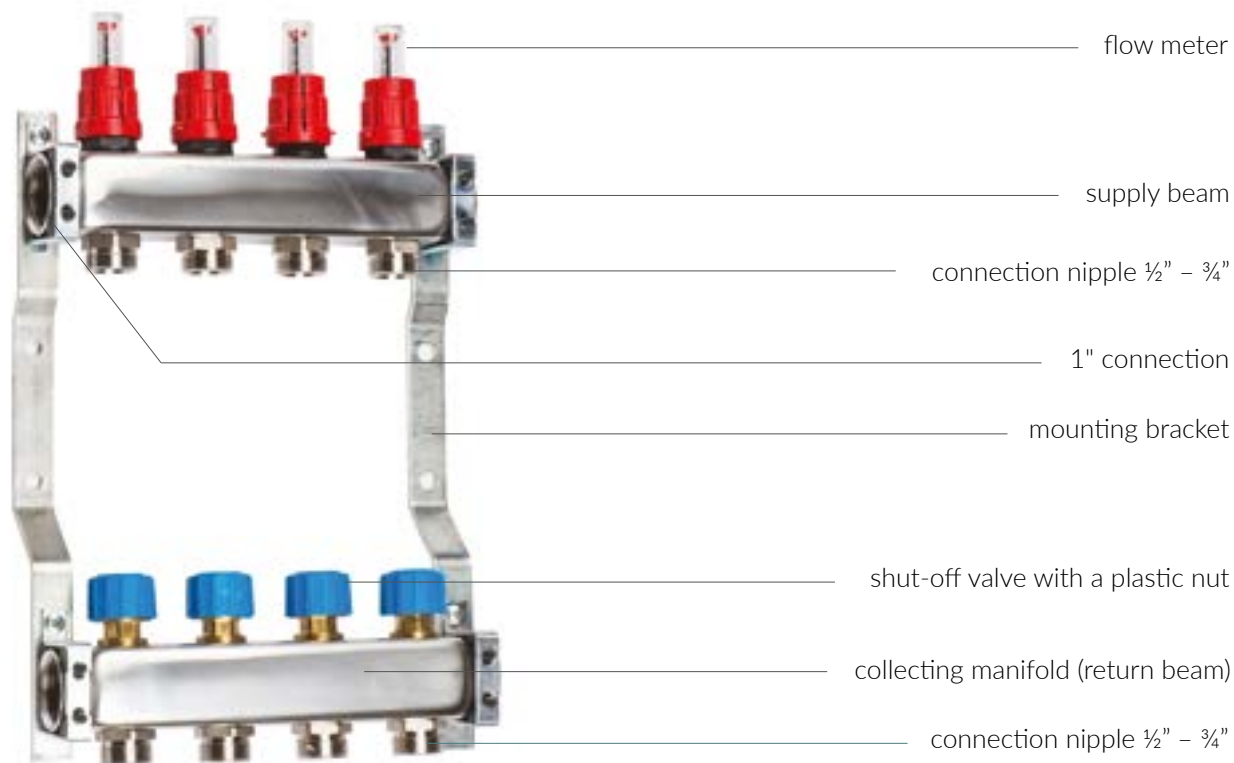


Figure 1
CR manifold without air vents

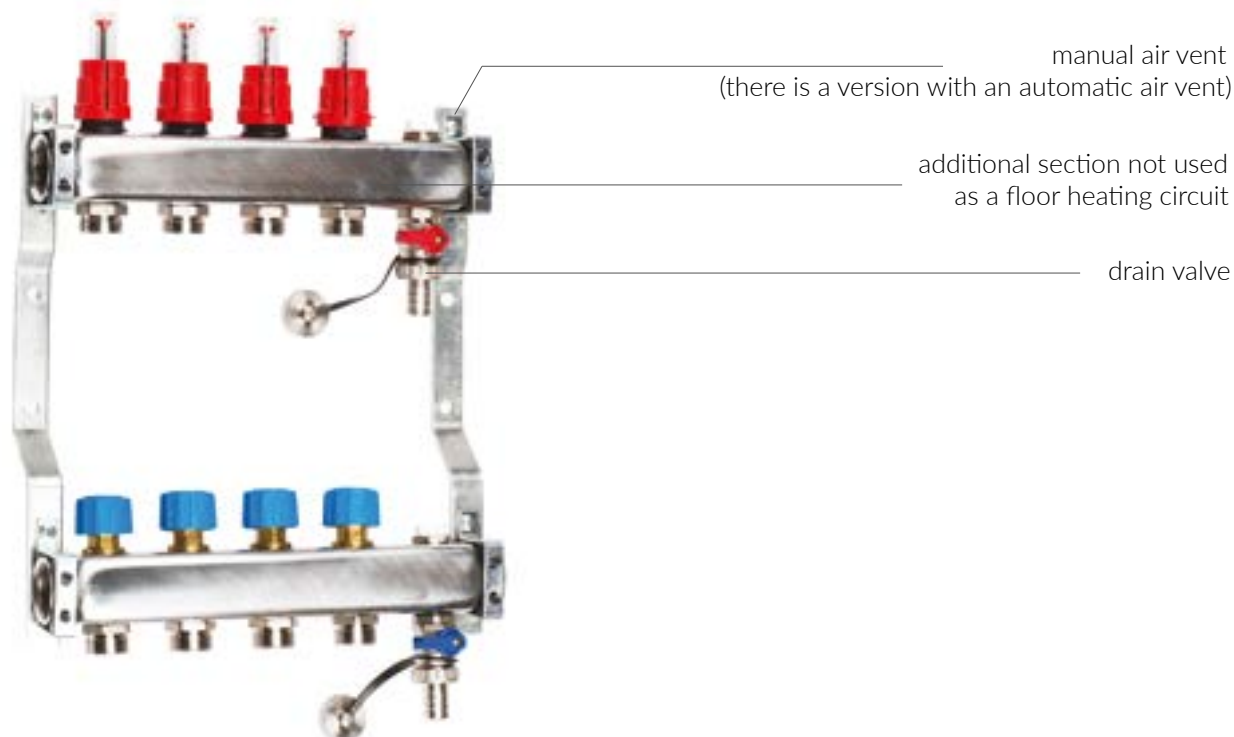
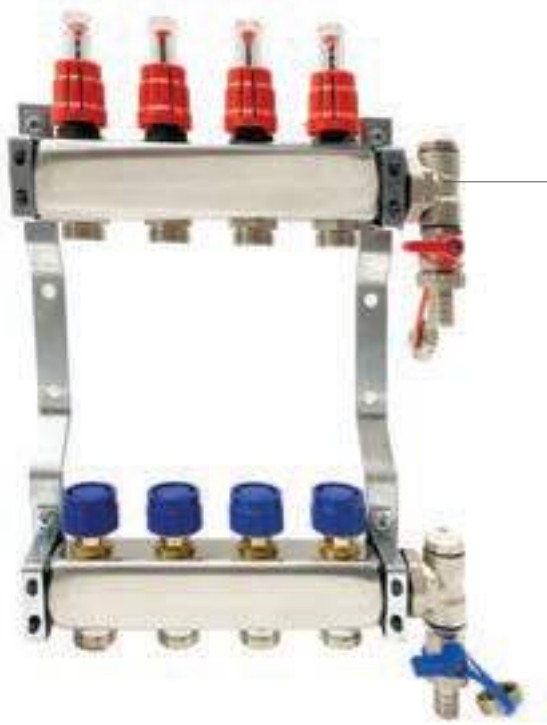


Figure 2
CR+1 manifold with an additional section
equipped with an air vent and a drain



drain section with air vent
manually screwed to the manifold beam on the 1"

Figure 3
Platinum M manifold



drain section with an automatic air vent screwed
to the distribution beam onto the 1" thread

Figure 4
Platinum A manifold

assembly

1. The manifold should be located in the central place of the serviced building or zone and it should be placed above the heating loops.
2. The manifold can be mounted only in dedicated cabinets in flush-mounted or surface-mounted construction. They should not be covered with furniture or other elements that hinder service access.
3. The supply line to the beam equipped with flow meters and the return line to the beam with shut-off valves should be connected to the manifold. The beams should be screwed using the attached mounting brackets. The beams can be screwed to the bracket alternately at the top or bottom and this does not affect the operation of the installation. It is important to properly connect them to the heating system.
4. Floor heating pipes should be connected to the nipples of individual heating circuits of the supply beam and to the corresponding nipples on the return beam. For this purpose, use compression fittings for plastic pipes \varnothing - 16 x 2.0 mm.
5. Compression fittings should be screwed with means of adjustable wrenches and the maximum tightening torque should not exceed 40 Nm.
6. Fill the installations with water or water-glycol solution (max 50%). In order to make this operation effective, it is best to fill each circuit separately and close the other circuits with a factory-made plastic nut on the shut-off valves on the return beam.
7. In the installation, in the course of its use, there may be precipitation of scale, progress of corrosion and development of bacteria. Therefore, it is recommended to add a corrosion inhibitor and a germicide to the heating water (e.g. Caleffi C7 and Caleffi C1).
8. Carry out a tightness test at a pressure 1.5 times higher than the planned operating pressure of the system.
9. If the manifold is equipped with automatic air vents, the installation should vent itself as it is filled, if not, the air must be removed manually using manual air vents.

adjustment

1. To set the appropriate flow on the rotameter on the supply beam, manually turn the red nut to the left (to increase the flow) or to the right (to decrease the flow) and observe the changing height of the floater in the flow meter's sight.
2. Once the desired settings have been set on all loops, it is not recommended to change them in the future.

Thanks to the shut-off valves on the return beam, the manifold can be integrated with the heating control electronics by independently shutting off the flow in individual loops.

1. Remove the factory-fitted locking nuts on the shut-off valves.
2. Before mounting the actuator, make sure that it is set to manual mode (man.)
3. Screw the actuator onto the valve thread with means of a nut compatible with the actuator thread - To ensure that the actuator works properly with the valve, it is best to use actuators supplied by TiA.
4. Switch the actuator to automatic mode by turning the head.
5. The actuator should be electrically connected to a dedicated connection strip for controlling floor heating or directly to the thermostat.

TiA mixing pump units

The pumping and mixing system is used to force the flow and to qualitatively adjust the supply parameters in underfloor heating systems.

The system is available in two spacings matching the TiA manifolds, in the size 210 and 235 mm, and it is equipped with 1-inch connections with an external thread on the central heating system side and 1-inch pipe unions on the underfloor heating manifold side.

It consists of an electronic circulation pump 25/70 - 130 mm, a thermostatic mixing valve, two thermometers and other brass fittings.

One type of pumps is used: Wilo Yonos Para RS25/7 (Appendix 1) , and two sizes of ESBE mixing valve VTA322 with kvs 1.6 and VTA372 with kvs 3.4 (Appendix 3 and 4).

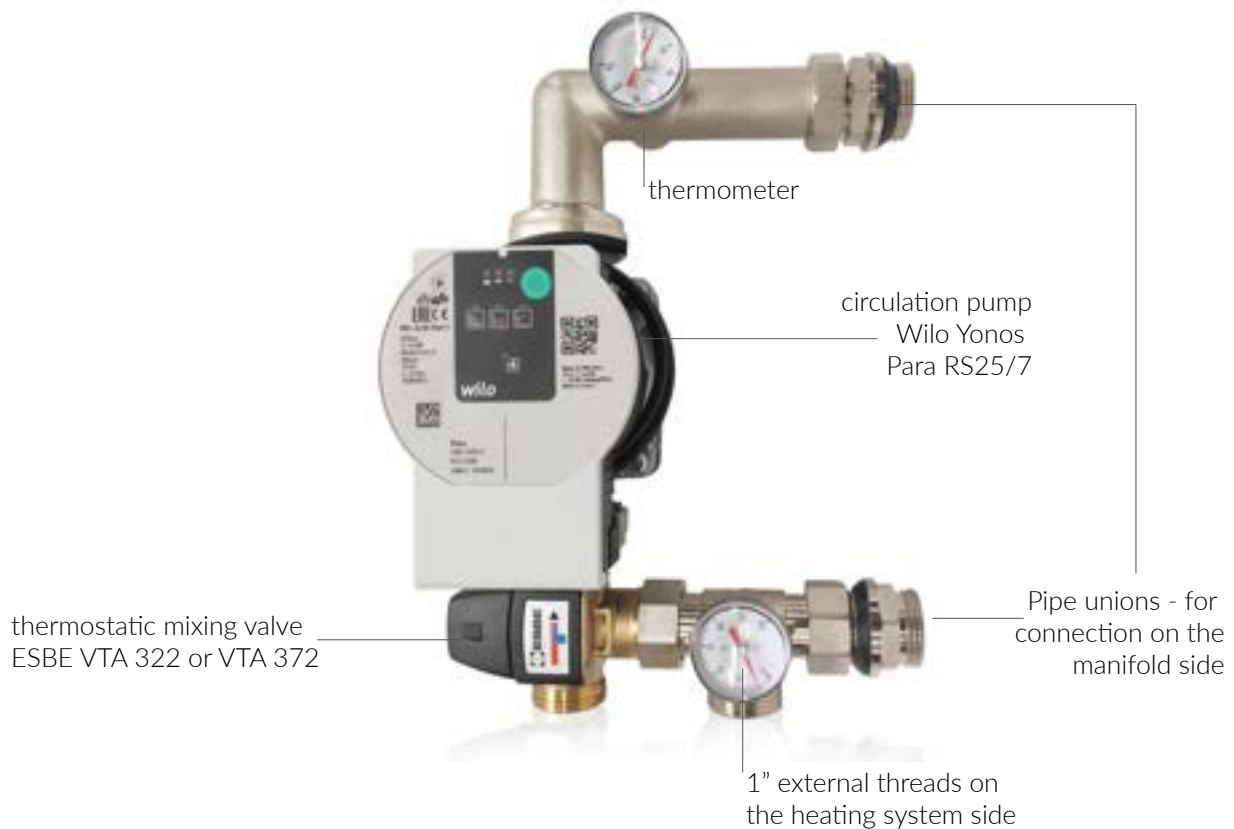


Figure 5
Wilo mixing pump unit

assembly

1. The pumping and mixing system should be mounted when necessary together with TiA manifolds in the dedicated distribution cabinets.
2. The pumping and mixing system should be connected to the heating system through 1" pipe unions.
3. The system should be screwed to the underfloor heating manifold by screwing in conical nipples - which are standard equipment of the pumping and mixing system - to the manifold's beams, and then the entire system should be screwed onto it with nuts. For this purpose, use adjustable wrenches or a suitable open-end wrench. adjustment

adjustment

4. The setting of the three-way valve should be determined on the basis of the installation design and it should be adjusted in the valve according to the instructions in Appendix 3 or 4 (depending on its size).
5. Pump settings depend on the type of installation, required flow and hydraulic resistance and should result from the design of the heating system. The pump should be set using the instructions in Appendix 1.

THE MANUFACTURER IS NOT RESPONSIBLE FOR DEFECTS RESULTING FROM
NON-COMPLIANCE WITH THE SPECIFIED RECOMMENDATIONS.