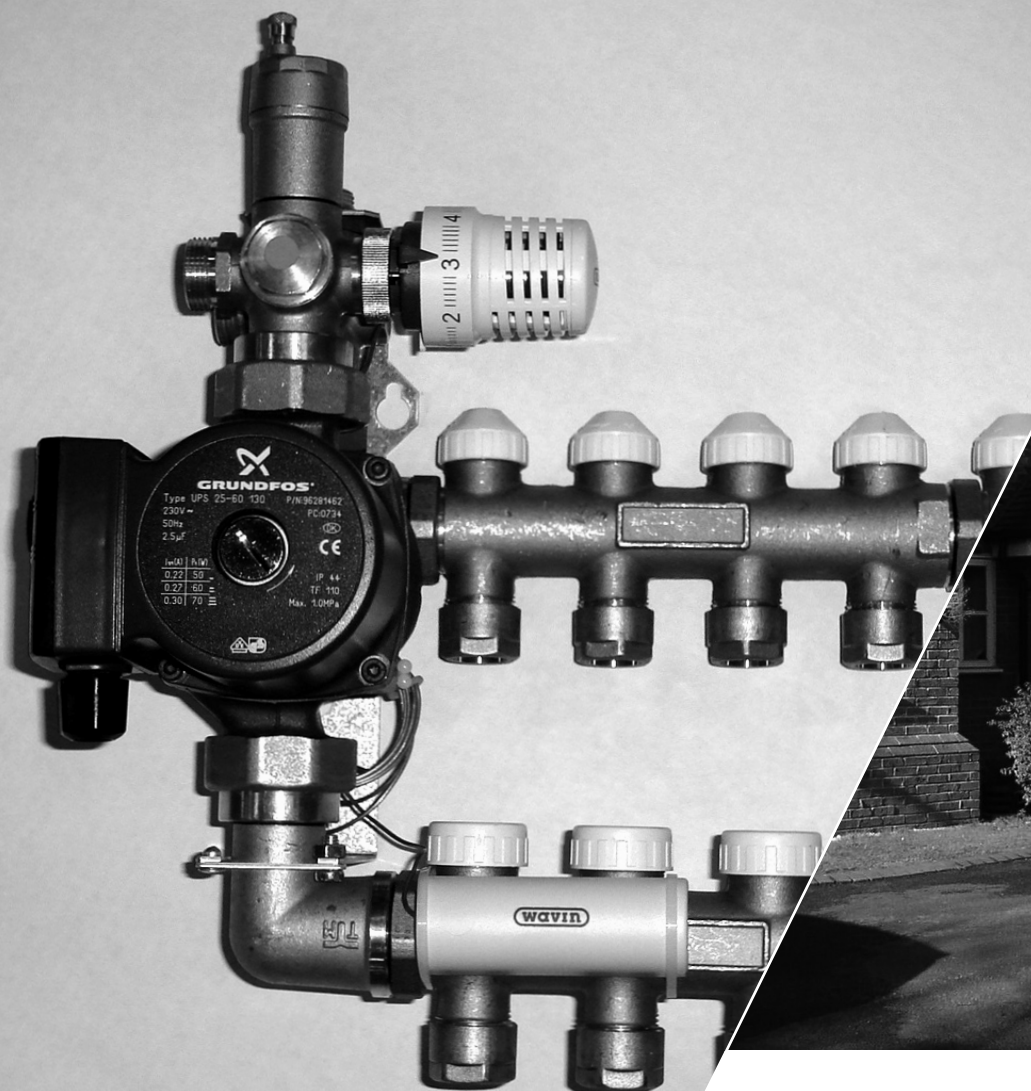


TIGRIS 1" 7-12 Port

Manifold



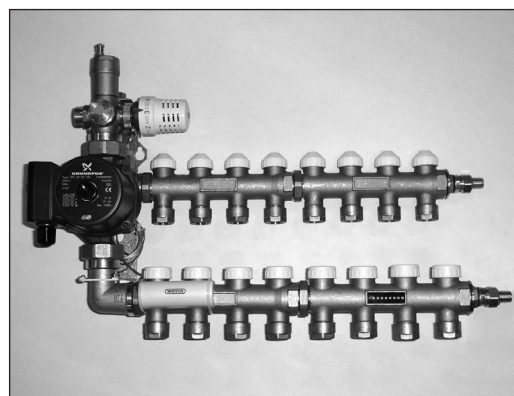
INSTRUCTION MANUAL FOR
TIGRIS 1" MANIFOLD

Specification

- TIGRIS 1" 7-12 Port
- 3/4" automatic air vent
- Thermometer strip 25-60°C
- Thermostat with capillary pipe including mounting cover
- 1" manifolds with drain spigot

Functional description

The flow temperature for the underfloor heating circuits is controlled by the mixing of flow water from the primary circuit, with return water from the secondary circuit. A non-return valve ensures that the mixed water cannot flow back into the system. A thermostatic valve controls the mixing of the flow water into the underfloor heating system, using a sensor located on the flow manifold. The mixed water is circulated through the manifold to the individual circuits by means of the built-in circulation pump. Electrical thermostats in the individual zones control the zone temperatures. These thermostats control actuators via a separate control centre that opens and closes each circuit (actuators supplied separately, code 52UH002). Room thermostats can be hardwired or radio linked to the control centre. When the room temperature drops below the set value, the thermoelectric actuators will open the circuits of the zone in question. When the set temperature is achieved, the room thermostat will close the thermoelectric actuators and switch off the heat to this zone.



Underfloor heating systems

Technical data

Pump: Grundfos, UPS 25-40/60 130 – 230V
Maximum pressure: 10 bar
Maximum differential pressure: 0.8 bar
Maximum temperature: 95°C
Thermostatic valve: Flow temperature in underfloor heating pipes.

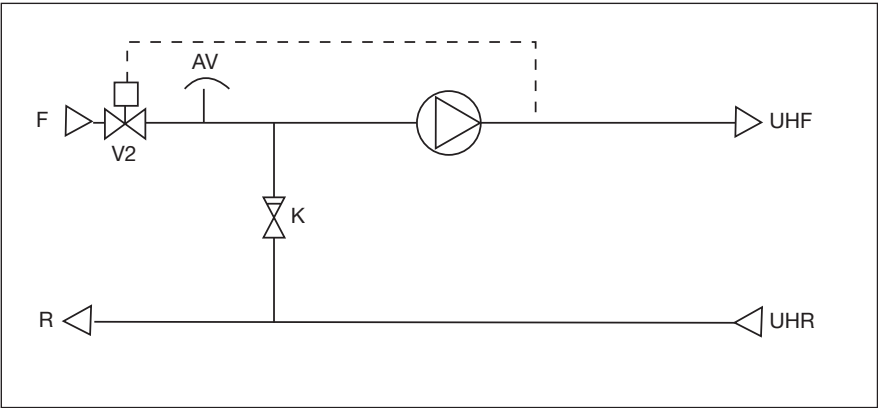
1 = 20°C	2 = 28°C	3 = 37°C
4 = 45°C	5 = 53°C	6 = 62°C
7 = 70°C		

Dimensions

	H	D	W
	mm	mm	mm
Parallel shunt without manifold	355	205	105
Parallel shunt with 8 port manifold	375	205	580
10 port manifold	375	205	680
12 port manifold	375	205	780



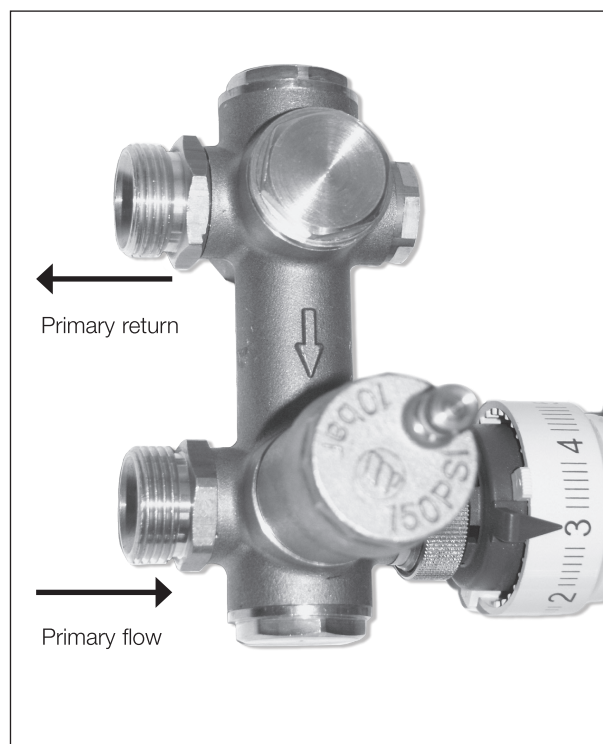
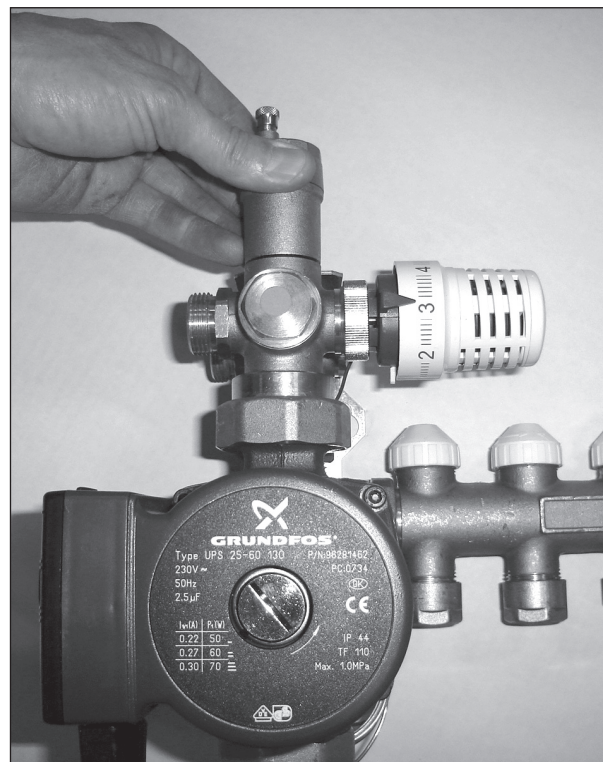
Flow diagram



- L: Air vent
- VF: Heat flow
- VR: Heat return
- P: Pump
- GVF: Underfloor heating flow
- GVR: Underfloor heating return
- K: Non-return valve
- V2: Thermostatic valve

Installation of shunt

- ▲ Install isolating valves on boiler flow and return connections.
Osma UFH has 3/4" Isolating valves available separately (code 47UH019).
- ▲ Fix the shunt to the back-wall.
- ▲ Install the supplied 3/4" automatic air vent on top of the TIGRIS in the corresponding 3/4" socket.
- ▲ Install UFH pipe using euroconas connections.
- ▲ Install primary flow pipe to the connection opposite the mixing thermostat and under the airvent, and the primary return pipe to the innermost connection, closest to the wall.



Underfloor heating systems

Connection of pump

Never connect the pump to power until the system is filled with water. If the pump is started with no water in the system, the pump bearing will be damaged within a short time and the guarantee will be void.

Connect the pump to 230V~.

Commissioning/Setting

Fill the underfloor heating pipes and the 1" mixing unit with water. Loosen the dust cap at the top of the air vent approx. 2 turns for providing automatic venting.

Set the balancing valves on the flow pipe of each circuit according to the length of the pipe circuit using a 6 mm Allen Key. Important: Only balance the flow pipe. Leave the returnpipe-valves as is.

Close the balancing valve clockwise, turning until you feel resistance, then opening anti-clockwise according to the following chart:



1" balancing guide:

Meter	120	115	110	105	100	95	90	85	80	75	70	65	60	55
120	5													
115	4,8	5												
110	4,6	4,8	5											
105	4,5	4,5	4,8	5										
100	4,3	4,3	4,5	4,7	5									
95	4	4,1	4,3	4,4	4,7	5								
90	3,7	3,9	4	4,2	4,5	4,7	5							
85	3,5	3,6	3,8	4	4,3	4,4	4,7	5						
80	3,3	3,4	3,6	3,8	4	4,1	4,4	4,6	5					
75	3	3,2	3,4	3,5	3,8	3,9	4,1	4,3	4,6	5				
70	2,9	3	3,1	3,3	3,5	3,6	3,8	4	4,3	4,6	5			
65	2,7	2,8	2,9	3,1	3,3	3,4	3,5	3,7	4	4,3	4,6	5		
60	2,5	2,6	2,7	2,8	3	3,1	3,2	3,5	3,7	4	4,3	4,6	5	
55	2,3	2,4	2,5	2,6	2,8	2,9	2,9	3,2	3,4	3,6	3,9	4,1	4,5	5
50	2	2,2	2,2	2,4	2,5	2,6	2,7	2,9	3,1	3,3	3,5	3,8	4,1	4,5
45	1,8	1,9	2	2,1	2,3	2,3	2,5	2,6	2,8	3	3,2	3,4	3,7	4
40	1,6	1,7	1,8	1,9	2	2	2,2	2,3	2,5	2,6	2,8	3	3,3	3,6
35	1,4	1,5	1,6	1,6	1,8	1,8	1,9	2	2,1	2,3	2,5	2,6	2,9	3,1
30	1,2	1,3	1,4	1,4	1,5	1,5	1,6	1,7	1,8	2	2,1	2,3	2,5	2,7
25	1	1,1	1,1	1,2	1,2	1,3	1,4	1,4	1,5	1,6	1,8	1,9	2	2,2

Start with the longest circuit (top row) that should be fully open (Approx. 5 turns anti-clockwise from closed position) and then read the settings of the remaining circuits downwards in the column in question.

Example: 1" 8 port:

Longest circuit	circuit length: 100 m	5,0 turns
2 nd longest circuit	circuit length: 85 m	4,3 turns
3 rd longest circuit	circuit length: 75 m	3,8 turns
4 th longest circuit	circuit length: 35 m	1,8 turns
5 th longest circuit	circuit length: 50 m	2,5 turns
6 th longest circuit	circuit length: 25 m	1,2 turns
7 th longest circuit	circuit length: 95 m	4,7 turns
8 th longest circuit	circuit length: 60 m	3,0 turns

To check the balanced system

To check the balanced system, Osma clip-on thermometers (47UH550) can be used. Clip these to the return pipes of each circuit. If the temperatures are the same, the system is balanced. If a return temperature is too high the circuit balancing valve should be closed slightly. If its too low, it should be opened slightly.

There is a temperature strip positioned on the flow manifold to indicate what the mixed temperature has been set to. The mixing thermostat of the TIGRIS Manifold must be positioned to achieve the desired flow temperature. A guide to the settings is:

°C	30	35	40	45	50	55	60	°C
°F	86	95	104	113	121	131	140	°F

1 = 20°C

2 = 28°C

3 = 37°C

4 = 45°C

5 = 53°C

6 = 62°C

7 = 70°C

The thermostatic valve on the TIGRIS can be locked as illustrated on the photo. The white catches can be pulled back and moved to the desired position.

The maximum flow temperature into an underfloor heating system is 60°C. For a screeded floor a flow temperature between 45°C and 55°C is recommended.



When switching the system on start the circulation pump at the maximum velocity for approx. 5 minutes, pump setting 3, then set the pump at the desired pump output, typically setting 1 or 2.



Installation of thermal actuators

Thermal actuators can be installed on the flow ports of each circuit once balancing has been completed, these are supplied separately (code 52UH002). A room thermostat controls one or more actuators depending on the number of circuits within a room. The connection of room thermostats to actuators is done via a wiring centre which is supplied separately (4 zone wiring centre - code UH1-M or 8 zone network wiring centre - code UH-1).

Maintenance

Check twice a year that all valves (thermostatic valves and those on the return manifolds) of the Tigris are able to fully open and close. Check during the summer period and force the system to operate by setting the room thermostats at maximum and minimum, respectively (with a minimum interval of 15 minutes) or manually open and close the valves a couple of times. If the pump has stopped, check that it can operate correctly by switching on the power.

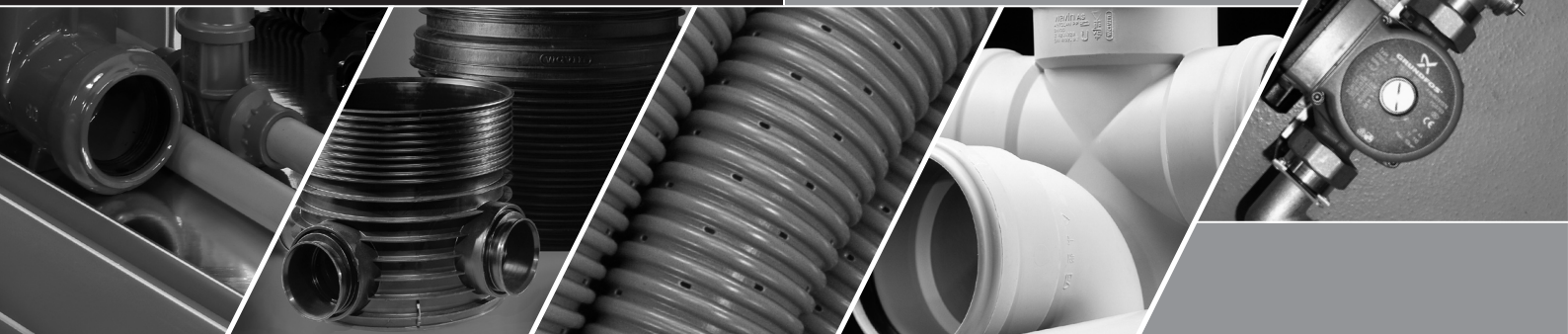
Wiring

For wiring details refer to instructions with Osma wiring centres:

UH1-M with 230V thermostats up to 4 zones.

UH1 with 12V thermostats up to 8 zones – network capabilities.

TIGRIS 1" 7-12 Port



Superior below the surface

Wavin's products are not visible in everyday life. Concealed in walls, under the flooring and under pavements, parking lots and agricultural areas, our products bring modern comfort into your everyday life – comfort that we take for granted, but only possible through innovative, reliable and secure pipe systems.

Wavin develops and produces environmentally sound technological solutions. Thus, it is our policy that knowledge and development can better flourish in an environment of responsive manufacturing processes. Our systems demonstrate convincingly that this policy works: They are designed for environmentally safe manufacturing processes, installation, use and maintenance.

Very often, our pipe systems are invisible in everyday life – but Wavin is not. To understand and respond effectively to our customers' needs and requirements – not only in terms of products and systems – is always at the forefront of our company philosophy. In our opinion, a good product is not only a matter of supplying a product that meets the customer's functional desires and requirements, but also equally a matter of providing the key logistics solutions to the customer.

Wavin is represented in 27 European countries and with production facilities in most of these countries, Wavin has access to a comprehensive product program, not forgetting a comprehensive knowledge on the installation and transport of these products.

We encourage our customers to make use of this knowledge.