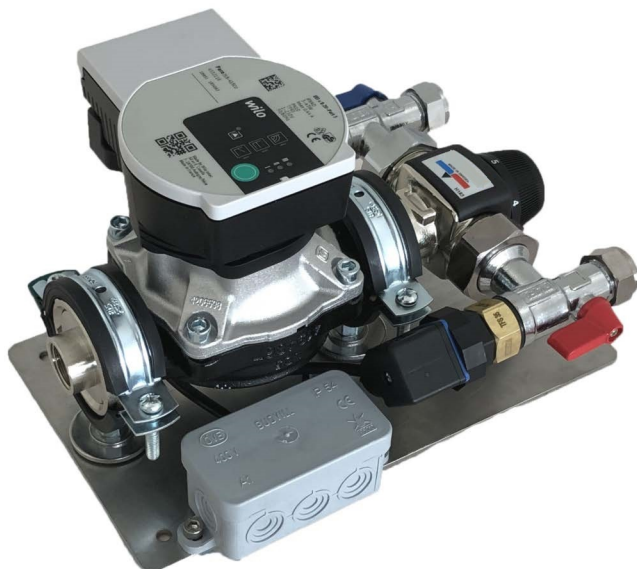


Installation and Commissioning Instructions

Underfloor Heating with thermostatic mixing valve



Boxed set pre-assembled for immediate installation including:

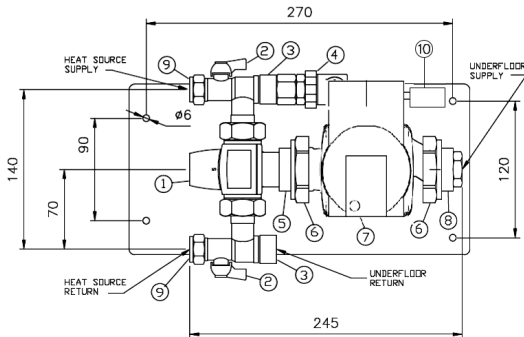
- Thermostatic mixing valve adjustable from 35°C to 60°C
- Temperature switch for pump control on inlet water temperature - 40°C
- Wilo Para 25/6 SCU
- 1/2" BSP female connection to underfloor flow and return
- Nickel plated for improved appearance
- Built-in isolating valve in flow/return elbow
- 15mm compression connection flow and return
- TMV body kvs 1.3
- Mounted pump control terminal box

1. General

1.1 designed for control of flow and water temperature in an underfloor heating system. It is pre-assembled and tested to ensure that it can be fitted with the minimum of on-site labour and commissioned immediately once fitted.

1.2 It is designed to connect to new and existing heating system with 15mm compression connections for the flow and return. The temperature switch to supply power to the pump will remain open until the existing heating system water is above 40°C, then the switch will close switching on the pump which will allow the TMV to mix flow and return to the required UFH temperature.

2. Connections Dimensions



ITEM	DESCRIPTION	QTY
1	VTA362 - TMV 35-60 DEG C KV1.3	1
2	ISOLATION BALL VALVE	2
3	1/2" BSP FEMALE ADAPTOR	1
4	TEMPERATURE SWITCH 40 DEG C	1
5	1" BSP X 1 1/2" FLANGE ADAPTOR	1
6	1 1/2" PUMP FLANGE NUT	1
7	YONDS PARA PUMP	1
8	1/2" BSP FEMALE ADAPTOR	1
9	1/2" COMPRESSION CONNECTIONS	2
10	TERMINAL BOX	1

Fig.1 Overall Connections and Dimensions

3. Technical Data

Maximum static pressure	10 bar
Maximum differential pressure	3 bar
Maximum temperature	95°C
Operating temperature Range	Adjustable between 35°C and 60°C
Inlet connections	15mm compression
Outlet connections	1/2" BSP Female
Kvs	1.3

4. Installation

4.1 Remove the assembly carefully from the packaging and check to ensure that all components are in place and that there is no damage to them.

4.2 supplied for connection with return to the left hand side but can be altered very simply for connection to the right hand side.

4.3 Using an appropriate spanner, loosen the rotating flange nut securing the mixed outlet of the TMV to the pump inlet.

4.4 The upper assembly can then be rotated through 180° reversing the connections. Care should be taken not to over stretch the cable connection to the temperature switch. Retighten pump flange nut.

4.5 The pump mixer can be attached to the heating system. Using the dimensions shown in Figs. 1, ensure that there is sufficient space for installation and maintenance at the intended position.

5. Commissioning

5.1 Filling the UFH system – The TMV is modified to allow the return flow port to be always partly open as such care should be taken to ensure the UFH is fully filled and not bypasses through the TMV.

5.2 The pump mixer and underfloor circuits can now be filled and commissioned in accordance with the manifold instructions. Prior to filling, a final check of all joints should be made to ensure no connections have loosened during transit.

5.3 Ensure that the pump is filled and vented, operate the controls system to call for heat then select the desired pump setting.

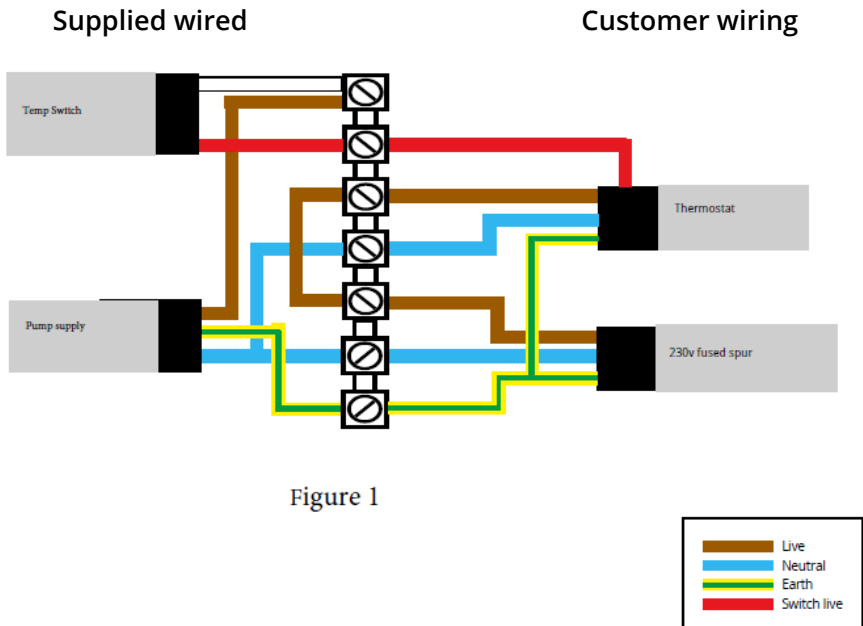
5.4 Wiring should be carried out by a competent electrician following the wiring diagram Fig. 6 on the next page.

Warning – Thread sealed joints should not be rotated as this will break the seal and invalidate the warranty.

6. Wiring

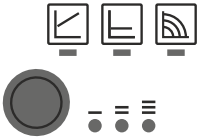
Wiring is simple, all you need is a 3A mains fused spur. The Pack automatically detects when your radiator or mains heating circuit is on using a temperature control switch built within the unit.

1. Use the junction box included to wire your thermostat and fused spur as shown below.



7. Pump control modes and functions

Operating button



Controls

- Select control mode
- Select pump curve (I, II, III) within the control mode (Press and hold)
- Activate the pump venting function (press for 3 seconds)
- Activate manual restart (press for 5 seconds)
- Lock/unlock button (press for 8 seconds)

Indicator lights (LEDs)



Signal display

- LED is lit up green in normal operation
- LED lights up/flashed in case of a fault (See chapter 10.1)



- Display of selected control mode Δp -v, Δp -c and constant speed

- Display of selected pump curve (I, II, III) within the control mode

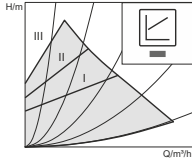


- LED indicator combinations during the pump venting function, manual restart and key lock

Setting	Number	1	2	3	4	5	6
Temperature	°C	35	40	45	50	55	60

Fig. 10 Choose the setting number to give the correct temperature for your system. The setting numbers are a guide only and should be checked against the fitted temperature gauge.

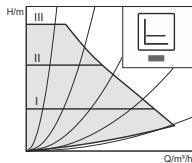
**Variable
differential
pressure
 $\Delta p-v$ (I, II, III)**



Recommended for two-pipe heating systems with radiators to reduce the flow noise at thermostatic valves. The pump reduces the delivery head to half in the case of decreasing volume flow in the pipe network. Electrical energy saving by adjusting the delivery head to the volume flow requirement and lower flow rates. There are three pre-defined pump curves (I, II, III) to choose from.

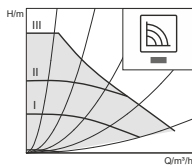
Recommended for underfloor heating for large-sized pipes or all applications without a variable pipe network curve (e.g. storage charge pumps), as well as single-pipe heating systems with radiators. The control keeps the set delivery head constant irrespective of the pumped volume flow. There are three pre-defined pump curves (I, II, III) to choose from.

**Constant
differential
pressure
 $\Delta p-c$ (I, II, III)**



Recommended for underfloor heating for large-sized pipes or all applications without a variable pipe network curve (e.g. storage charge pumps), as well as single-pipe heating systems with radiators. The control keeps the set delivery head constant irrespective of the pumped volume flow.

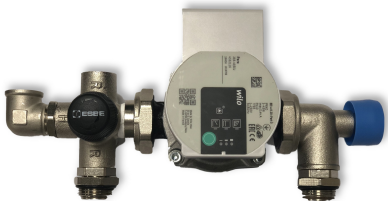
**Constant
speed (I, II, III)**



There are three pre-defined pump curves (I, II, III) to choose from. Recommended for systems with fixed system resistance requiring a constant volume flow. The pump runs in three prescribed fixed speed stages (I, II, III).

NOTE: Factory setting: Constant speed, pump curve III

Our other products:



T4 Pump Pack:

The TMV Pump Pack is designed to connect to the left hand side of a manifold with 210mm between the centres of the flow and return arms. The control group can also be altered to fit to the right hand side of a manifold simply by turning the control group elbows through 180 degrees using the union fittings at the top and bottom of the pump. The pump motor may need to be rotated through 180 degrees to minimise the space occupied by the control group.

H4 Pump Pack:

The heat pump assembly is a pre-assembled pump unit that is designed to be connected (via ball valves) to the manifold. The unit is for use in situations where water temperature controls are not required. This is usually the case where Heat Pumps are utilised. The unit includes an 'A' rated energy efficient pump and is suitable for use with floor areas of up to 250m² or a maximum output of 20kW. Primary flow and return connections are situated at the bottom of the unit and the unit can be mounted on either the left or right hand side of the manifold.

