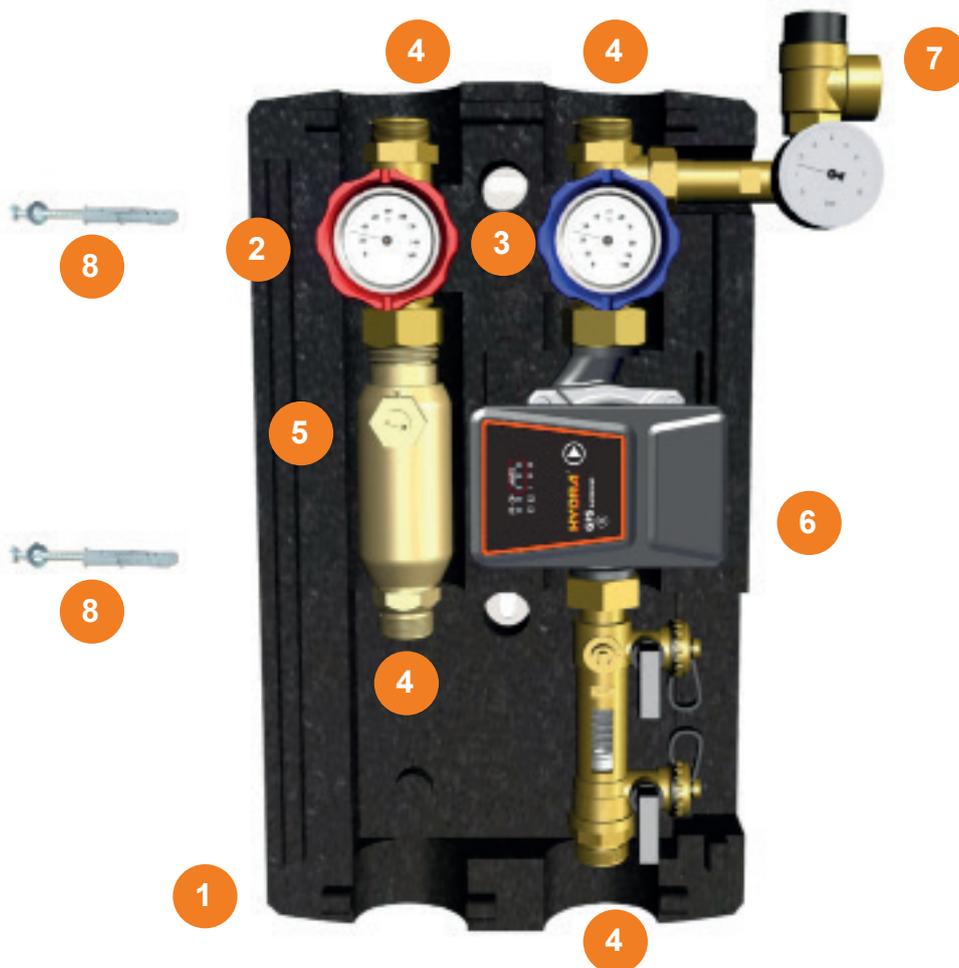


## HYDRA GPS PWM with Rotameter without suspension 400 001 312

### Components of the pump group

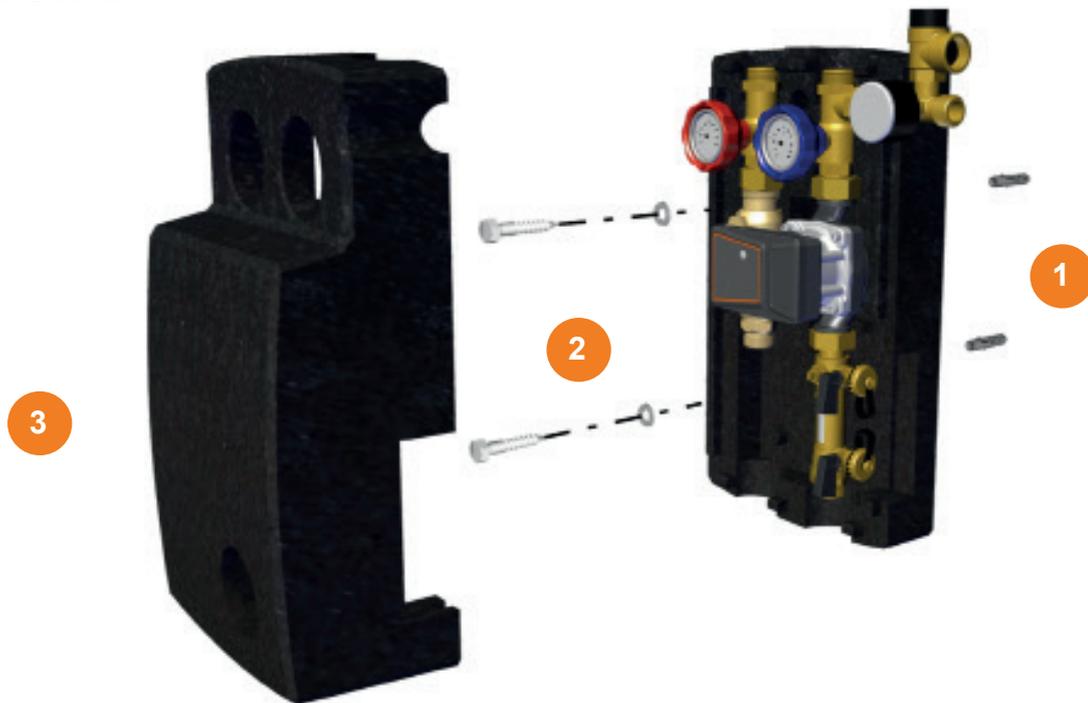
1. Housing Base
2. Thermometer with ball valve and check valve - red
3. Thermometer with ball valve and check valve - blue
4. Connection  $\frac{3}{4}$ "
5. Air separator with manual venting
6. HYDRA GPS II 20-8-130 PWM2 Pump
7. Safety group with 6 bar safety valve and 10 bar pressure gauge
8. Dowel 10x6



Date: Nov.2022

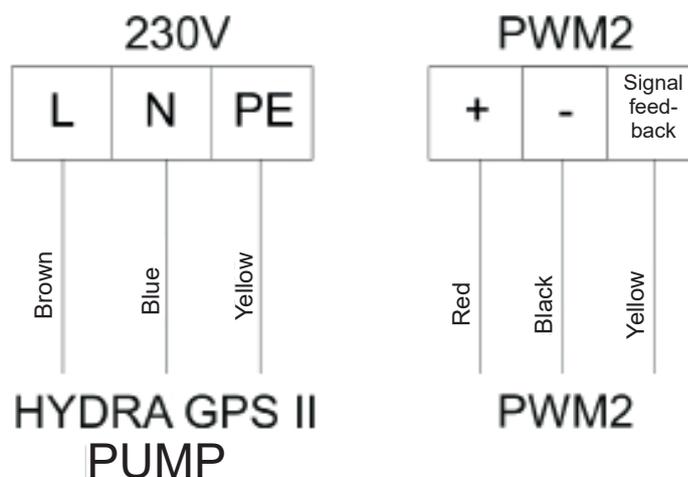
## Mounting the pump group on the wall

1. plan the location of the pump group base.
2. mount the base of the pump group with 2 dowels.
3. mounting the cover.



## Electrical connection

- ▶ Connect the three-wire PWM2 cable to the signal terminals of the solar controller.
- ▶ Connect the three-wire 230V cable to the voltage terminals of the solar controller.



\* If the controller to which the PWM2 signal is connected has no possibility to read the feedback signal, do not connect the yellow cable.

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## Setting the operating mode

A key on the control panel of the electronically controlled pump is used to set the following operating modes: Proportional pressure, constant pressure, constant speed and AUTO adjustment..

Operating mode	Description	Display
Factory settings	Constant properties	
AUTO	AUTO adjustment	
PP I	Pressure proportional curve, Velocity I	
PP II	Pressure proportional curve, Velocity II	
PP III	Pressure proportional curve, Velocity III	
CP I	Constant pressure curve, Velocity I	
CP II	Constant pressure curve, Velocity II	
CP III	Constant pressure curve, Velocity III	
AUTO I	Constant curve, Velocity I	

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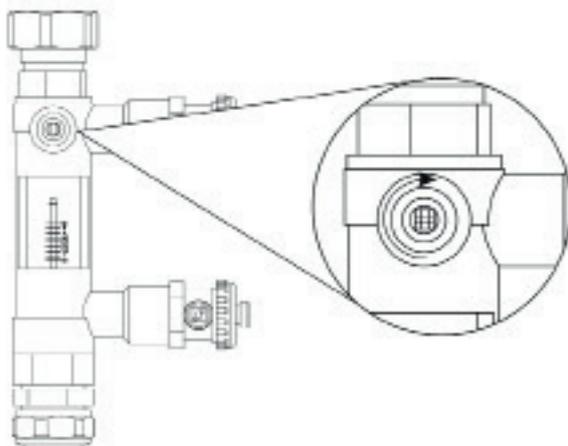
Operating mode	Description	Display
AUTO II	Constant curve, Velocity II	
AUTO III	Constant curve, Velocity III	
PWM2	Speed control of the pump via PWM2 signal	

## Pump error

When the circulating pump detects one or more faults, the alarm is activated, the indicator lights show the type of alarm according to the table below.

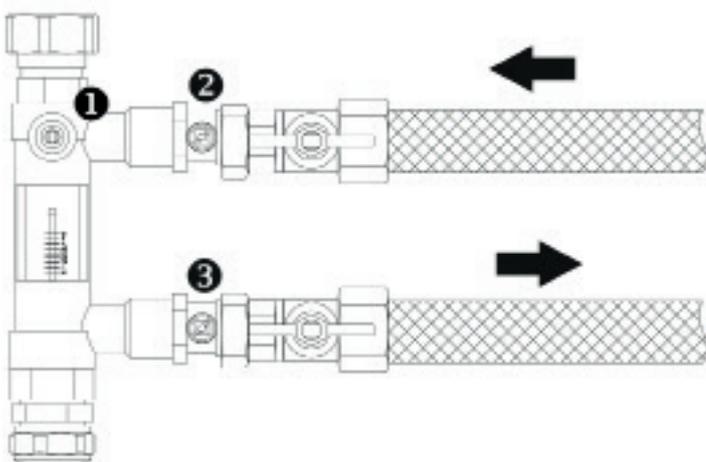
Protection	Description	Display
Protection against blocked rotors	Disassemble the motor and check that the impeller can rotate normally. If this is not the case, clean the deposits, so that the rotor can rotate flexibly.	
High/low voltage protection	Check that the voltage is within the normal operating range ~220 ÷ ~240VAC.	
Phase failure protection	One or more phases of the internal circuit are disconnected. Replace the pump.	
Overcurrent protection	Short circuit in the internal circuit. Replace the pump.	
Protection against dry running	After the pump has run for 1 minute without liquid, it will go into dry run protection and stop operating. Replace the pump.	

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## Filling and flushing the system.

To flush or fill the system, turn the valve on the rotameter 90° to the right to change the fluid circulation in the system.



## Filling the system

Connect the supply hose to the upper connection and the return hose to the lower connection. Open the ball shut-off valves on the hoses. Open valves 1, 2 and 3 by turning them 90° clockwise.

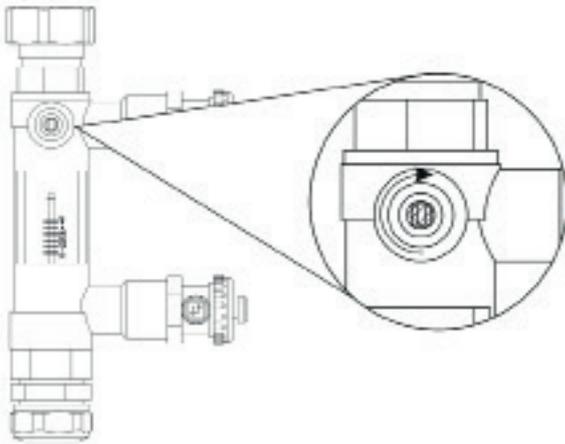
Date: Nov.2022

## Setting the flow rate

Example of flow calculation for 3 collectors with absorber area: 2.19 m<sup>2</sup> Setting the flow rate

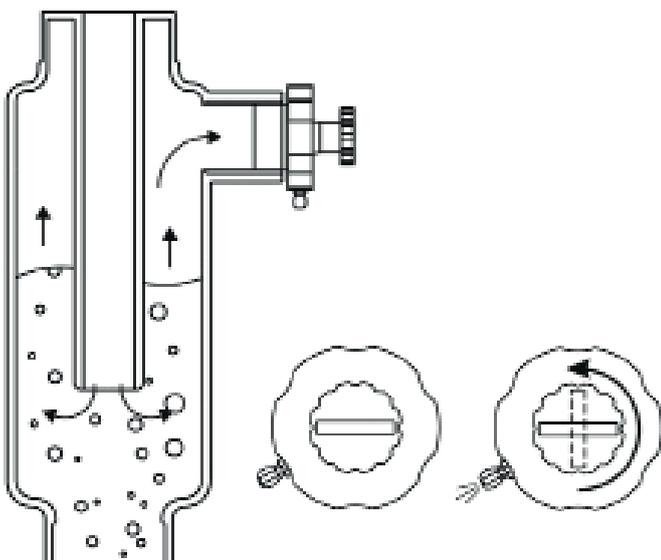
$$\frac{3 \times 2.19 \times 25}{60} = 2.7 \text{ l/min}$$

To set the correct flow rate, open the adjusting screw of the flow rate controller, manually set the pump speed to 100 % and select the lowest pump stage. If the value to be set is exceeded, correct the flow rate with the adjusting screw. If the set value is not reached, select the next higher pump stage until the correct flow rate can be set with the adjusting screw



## Venting

To bleed the system, turn the manual bleed knob until fluid drains through the bleed port



Date: Nov.2022