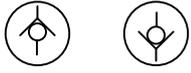


# Solar Pumping station 2-way "S2 Solar 2" High Flow



Supply Return

(A) Ball valve on the supply way (thermoter with red ring and scale 0-120°C) with "Solar" checkball.

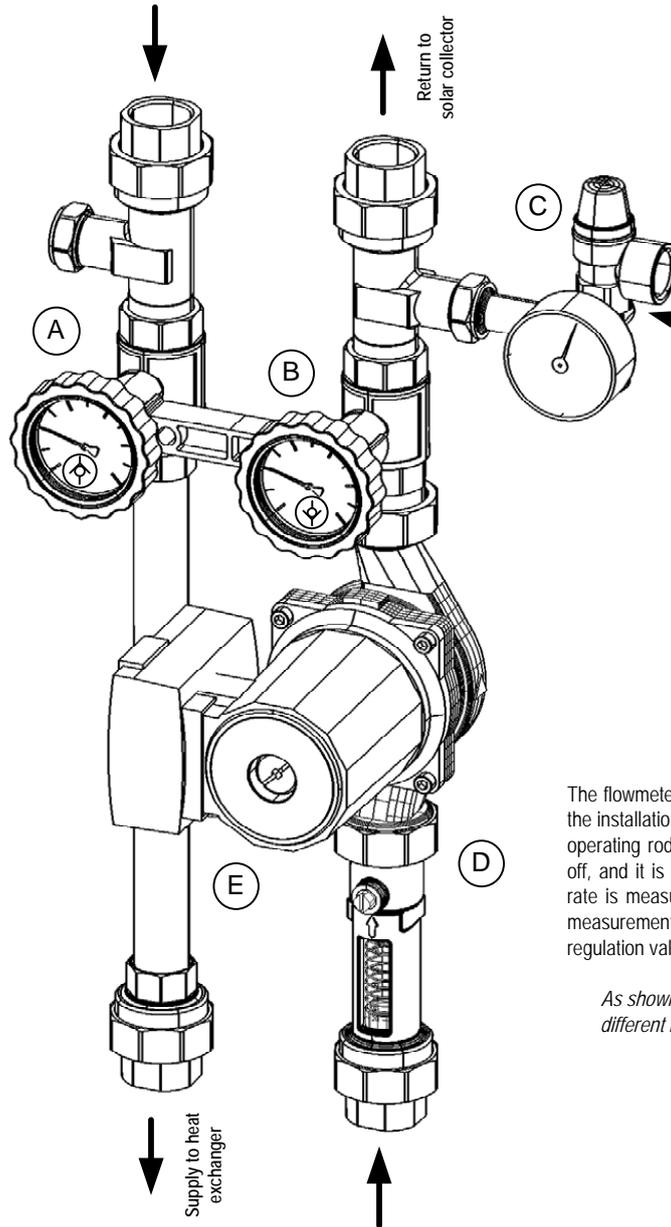
(B) Ball valve on the return way (thermoter with blue ring and scale 0-120°C) with "Solar" checkball.

## DN25 "Solar" Checkball

It is included into the ball valve both in the supply way and in the return way. It ensures the seal and low head losses. To exclude the checkball valve, for instance in case of emptying, rotate the handle by 45° clockwise.

## (E) Circulating pump

Three speed circulating pump with manual regulation (TOP RL 25/8,5). Otherwise high efficiency circulating pump with 0-10 Volt control (Stratos Para 25/1-8). Thanks to the seal of the ball valves before and after the circulating pump, it can be removed without emptying the installation.



## (C) Security unit

The security unit, CE and TÜV approved, protects the installation from the overpressures. It is calibrated at 6 bar, over this pressure the security unit starts. It is also provided with a manometer and with a connection to the expansion vessel by a 3/4" flexible kit (optional), as shown hereunder.

**WARNING:** For power up to 50 KW



## (D) Flowmeter

The flowmeter allows to regulate the flow rate to the capacity of the installation, by the means of a ball valve with screwdriver cut operating rod. If the valve is closed the usual circulation is cut off, and it is possible to service the circulating pump. The flow rate is measured and shown by the special sliding cursor: the measurement is immediate thanks to the proximity to the regulation valve.

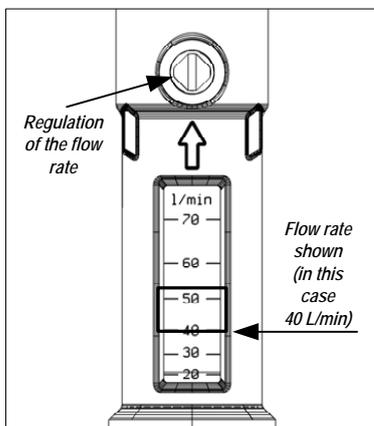
As shown hereunder two flowmeters are available with different measuring ranges: 5-42 L/min and 20-70 L/min.

L/min	L/min
42	70
35	60
28	50
20	40
12	30
5	20

## Directions for the use of the flowmeter to fill the installation:

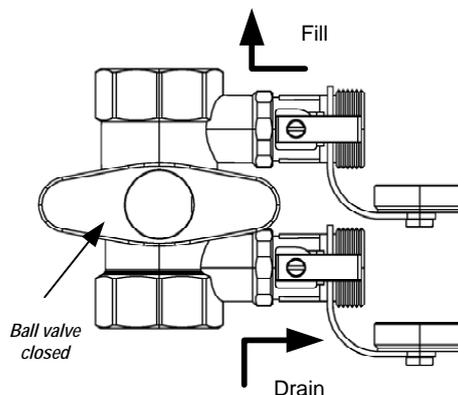
### Ball valve to fill and drain system (optional)

To be connected during the installation on the return way before the solar station

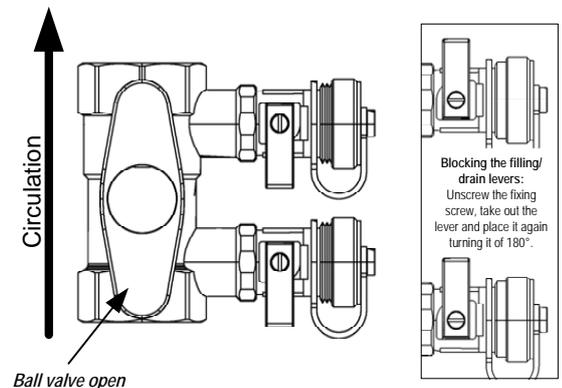


Regulate the flow rate using the regulation rod until the right flow rate is shown.

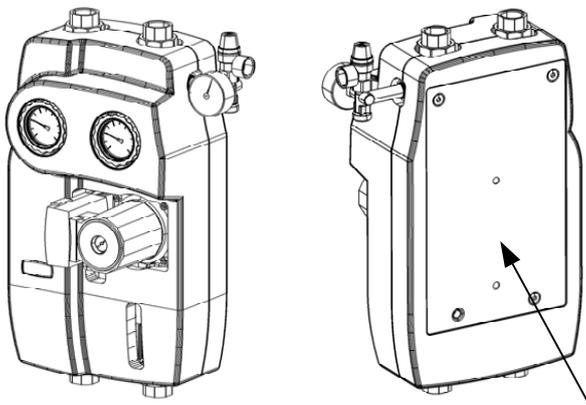
**N.B.** The flow rate is shown taking as reference the lower edge of the sliding cursor. (see picture)



**(1) - Filling the installation:**  
Remove the plugs from the side valves and connect the hose unions. Close the ball valve and open the side filling valve and draining valve.



**(2) - Starting the installation working:**  
Open the ball valve and close the side filling and draining valves. Remove the hose unions and screw again the plugs. To avoid any casual opening of the side valves, it is better to stop the levers in the close position, as shown here aside.



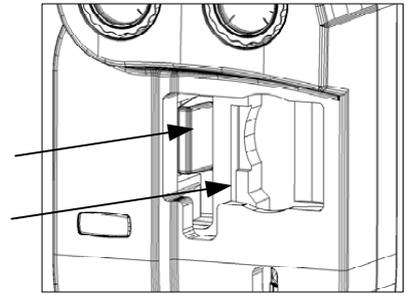
Back plate to fasten the unit to the wall or to the cylinder.

### Epp insulation box

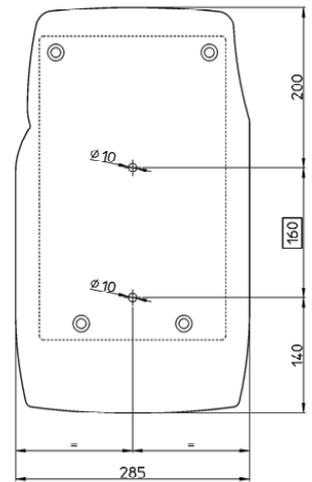
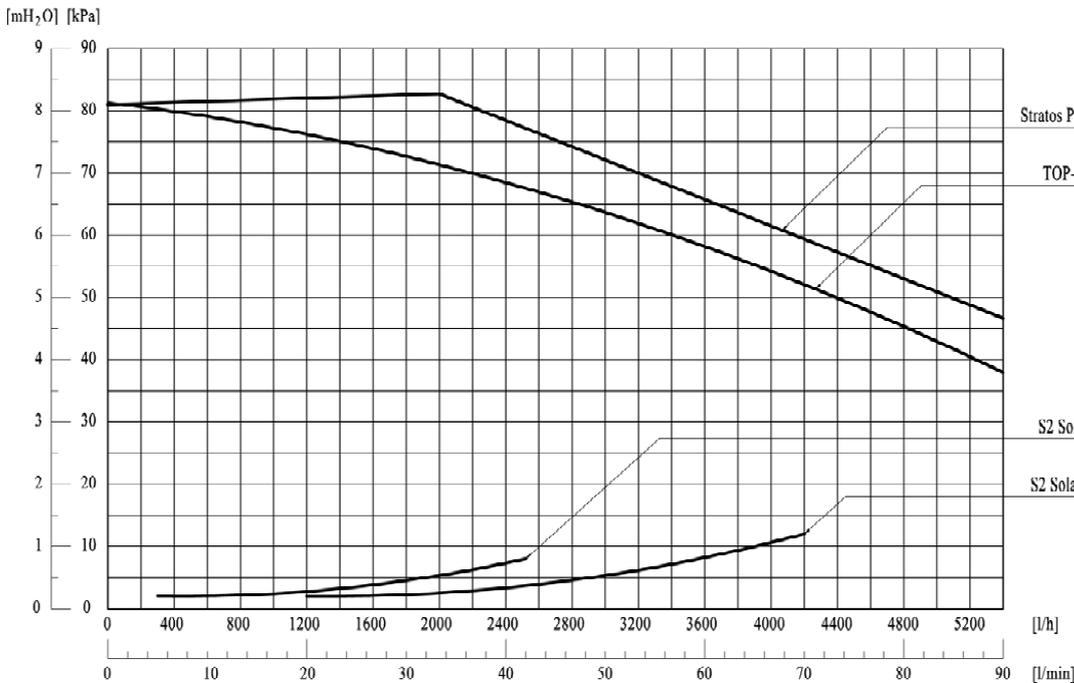
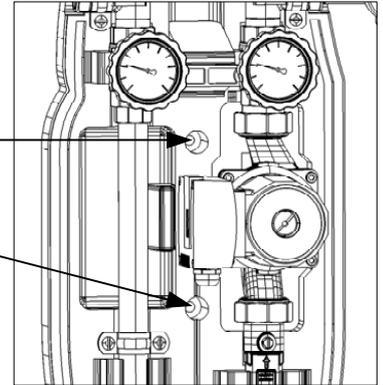
Measurements 500x285x170. Side openings on the back part of the insulation box for the security unit and the sensor holder pit. A special window allows to read and to adjust the flow without taking off the cover. Back plate to fasten the unit to the wall or to the cylinder.

Due to the high temperature of the supply pipe, we have done a separation wall into the insulation box to avoid the contact of the pipe with the wirings of the circulating pump.

Moreover the cables must be placed into the special groove of the base of the insulation box.



Fastening holes on the back fixing plate. Special openings on the insulation box allow the fastening without disassembling the unit.

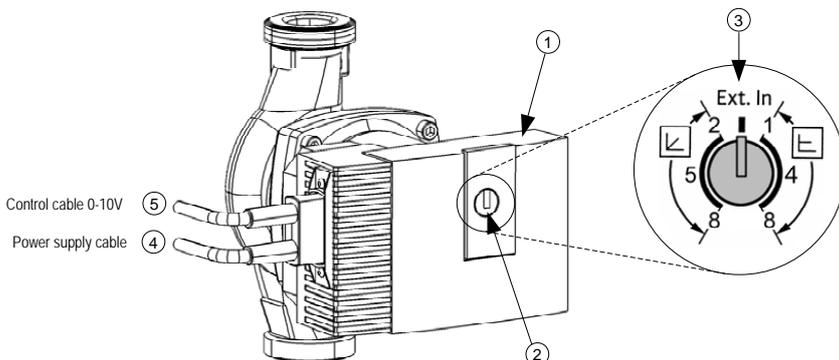


### Model with TOP-RL 25/8,5 circulating pump

As the TOP-RL 25/8,5 circulating pump has a big power consumption (about 210W at the maximum speed) it cannot be operated directly by the ModvSol solar controller: it is necessary to interpose an outside relay. Moreover, if a modulating output is used, it must be set at "constant speed" putting a condenser (2,5 µF 470 VAC) in parallel between R1 and neutral.

### Model with Stratos Para 25/1-8 circulating pump

The Stratos Para circulating pump is a high efficiency pump and the regulation of the revolutions must be operated by an analogic signal 0-10V. Therefore it is essential to use a special and suitable solar controller (es. **ModvSol TDC4, 2010**).



On the front side of the regulation unit (Pos.1) there is a red push-button control (Pos.2) that has to be set in the position **Ext.In** (Pos.3) as shown in the picture here on the left.

Then go on with the electrical connections of the power supply cable (Pos.4) to the electric system and of the control cable (Pos.5) to the 0-10V output of the solar controller. On this subject please look to the manuals of the different devices.

*This model of circulating pump sets automatically the flow: therefore it is not necessary to set it manually. It would be better to keep the flowmeter fully open.*