



Solar 3-WAY-VALVE

Automatic (analog and wifi) and manual

GENERAL DEALER TRAINING



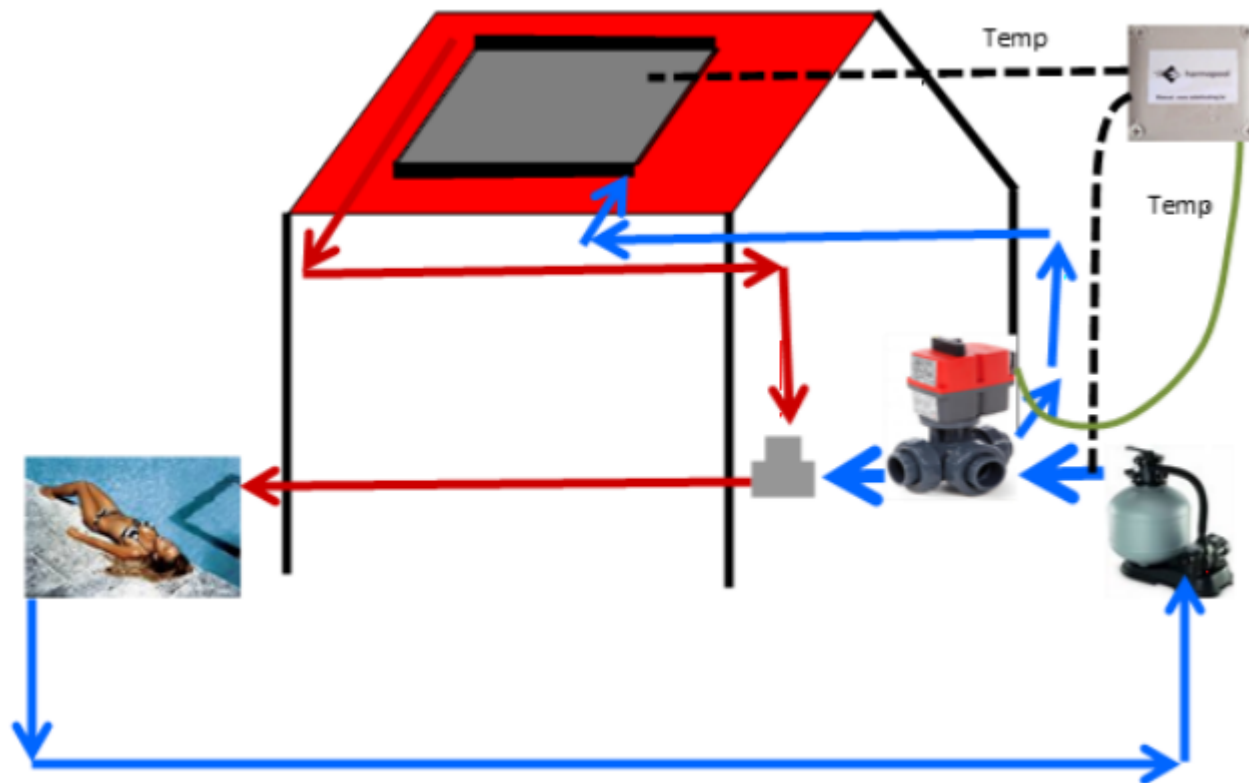


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What is a solar 3-way-valve?

- A solar 3-way valve will control the flow direction of the water in the heating cycle. It will send cold water to solar panels only if the temperature of the solar panel is higher than the pool water.
- First of all there are wifi-controlled valves and automatic valves. As seen on the diagram, the flow-direction is based on the temperature measured on the EPDM panels and that of the swimming pool water.
- Solar 3-way valves can be controlled via a hard wired control box, via wifi or manually.



Setting up the 3-way-valve



- The input of the 3-way-valve is **always the same**.
Always the middle opening!
- The control box will send the water to the left in case it needs to be heated, to the right if not. This direction can be switched (see manual).
- The 3-way-valve can be purchased **preassembled or not preassembled** to the Beniferro solar temperature control box .

Design of the 3-way-valve



- The valve itself will turn 90° back and forward. The pump never pumps against a closed circuit.
- Via the indicator window, it is easy to see the valve position.
- There is a switch on the automatic valve that switches between manual or automatic control.
- The pressure on the ball can be regulated. During production, it is set a +/- 10Nm, so that the valve always turns smoothly without breaking down.
- The internal motor gear assembly is metal



Design of the control box

- The control box can be connected or not to the valve when purchased from Beniferro
- The temperature sensors that are used are 2m (water sensor) and 12m (solar panel sensor) long.
- The insert and saddles necessary to fit the water sensor are included in the package
- Standard settings : valve turns to heating mode when the temp difference between roof and cold water $> 4\text{ }^{\circ}\text{C}$ (adjustable) .
- High temperature protection is set at 32°C (adjustable)



Wifi controlled 3-way valve

- The function of the control box, can be replaced by our Wifipool app.
- A chip is inserted in the valve motor.
- Temperature information is gathered for the wifipool Temperature-flow-level module
- The control settings are managed by the wifipool app





Guarantee and repairs

As the ball valve resistance is set to 10Nm, very little errors or faults occur. If faults occur, they can be easily fixed, even by the customers. Repair video's are available

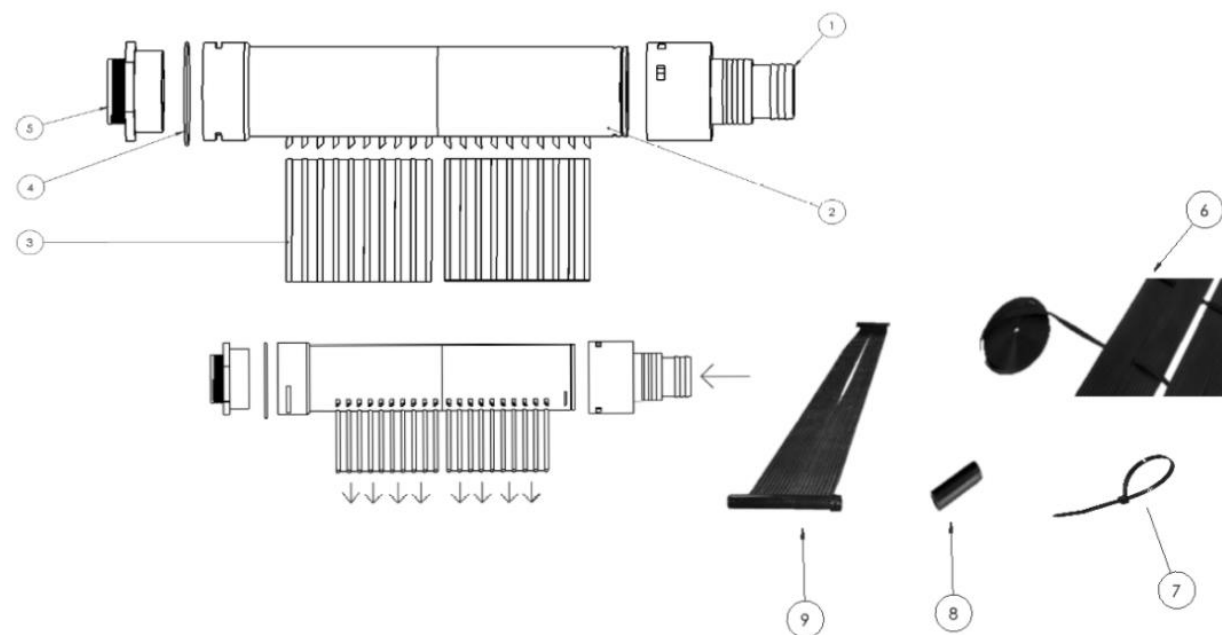
- Fault in one of the fuses..
- Switch for manual/automated physically broken
- PCB error

These faults can easily be fixed (+- 5 min) by following our trouble shooting guide.

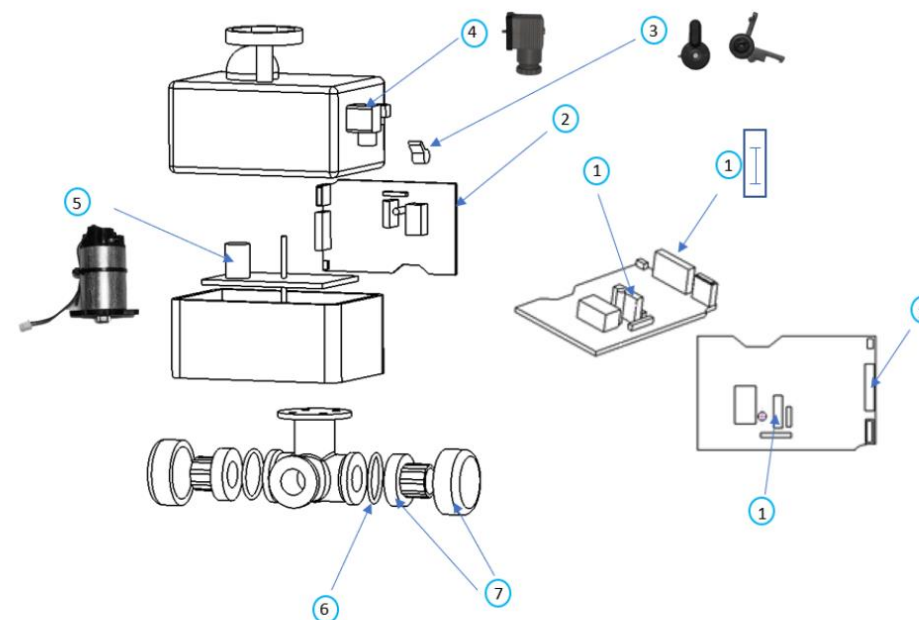
SPARE PARTS

Most of the parts can be bought **individually**. There are spare parts from the EPDM, three-way-valve and the Ferrosol available. You can find the spare parts list of the solar heating on :

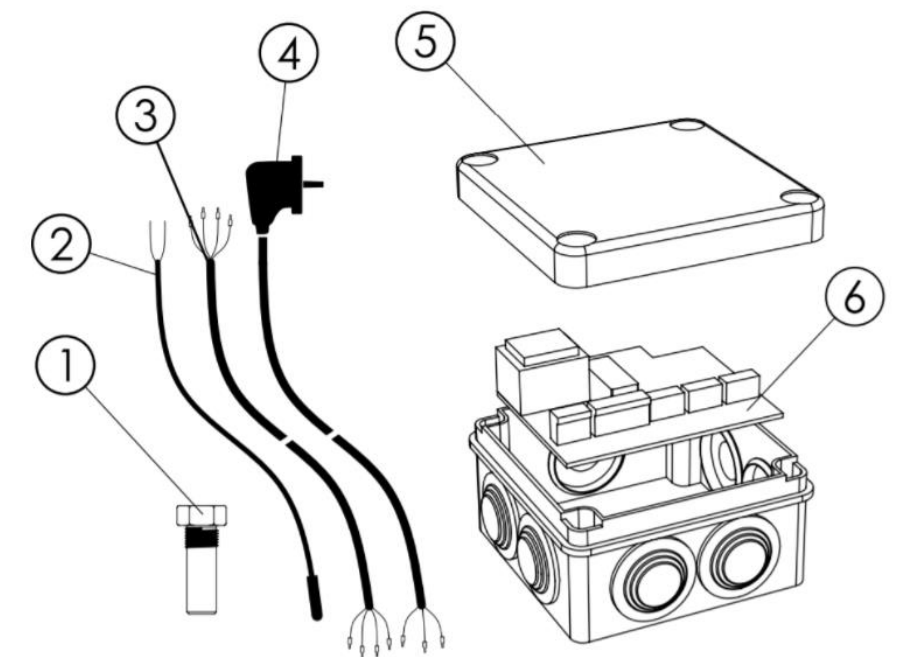
<https://beniferro.eu/spare-parts-epdm-valve/>



SPARE PARTS SOLAR HEATING



SPARE PARTS AUTOMATED THREE WAY VALVE



SPARE PARTS BENIFERROSOL



WHY BENIFERRO?

1. Small company with personalised customer service
2. Easy to contact
3. We have experience in dropshipping ourselves in the past
4. Our products are carefully designed and we supply all documentation needed.
5. Because of our small team of engineers and little expences, we offer great value for money
6. 15+ years experience in the swimming pool industry
7. Spare parts are easily ordered and quickly delivered



EPDM-market

- The EPDM solar heating system is the ideal product for the DO IT YOURSELF market, as the instrument is partially preassembled and easy to install.
- Typical customers for the product are in-ground pools and the larger above ground pools.
- As the climat in Europa is rising, more swimming pools will be used and solar heating will be the most cost-effective and ecological responsible way of heating your pool.