

MANUAL

HARMOSOL TEMPERATURE CONTROLER IN COMBINATION WITH 3-WAY VALVE FOR SOLAR ENERGY OR A SWIMMING POOL PUMP.



Produced by:

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Introduction

This Harmosol control unit is made in Belgium by Zwembad BVBA and is of the highest quality. This solar heating control unit measures pool and solar heating temperature, and activates an automated valve of a swimming pool pump.

The 3 way valve has gear wheels made of steel and are virtually unbreakable. Please read the Harmosol instructions before installing the automatic 3-way valve or the pool pump solar heating control.

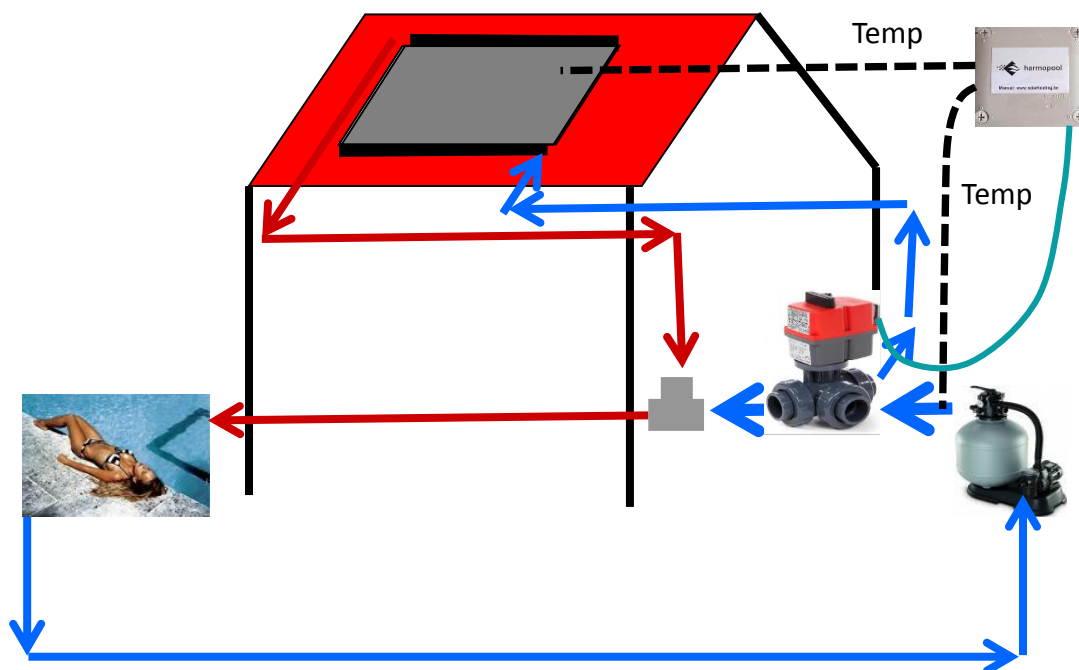
Attention!

- Damage caused by not following these introductions is not covered by warranty.
- The J2-H series is suitable for voltages between 85-240V. With normal use it's not needed to remove the cap of the automatic 3-way valve. During proceedings you need to make sure the voltage is turned off. It is recommended to let the electrical installation be adjusted by a qualified technician.
- The automatic 3-way valve is controlled by micro switch. If the power supply is interrupted when the valve was opening or closing, the valve will stop. As soon as the valve receives power again, the valve will continue in the same position.

Assembly

1. Connecting the valve

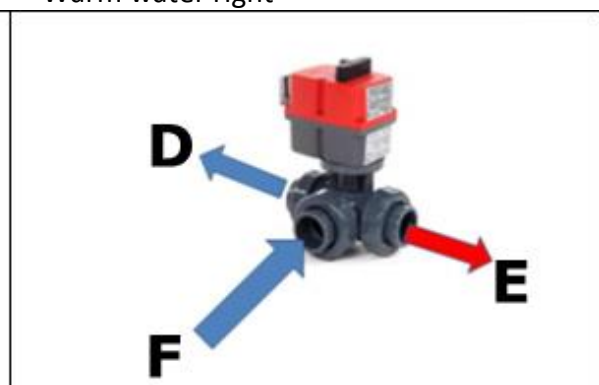
The valve is connected to the pool tubing according to the connection scheme below. As the water enters the valve from the front, it is possible to have the solar heating to the left or to the right side of the valve by adjusting the wiring (see 4. Connecting the automatic valve with the Harmosol)



Warm water left



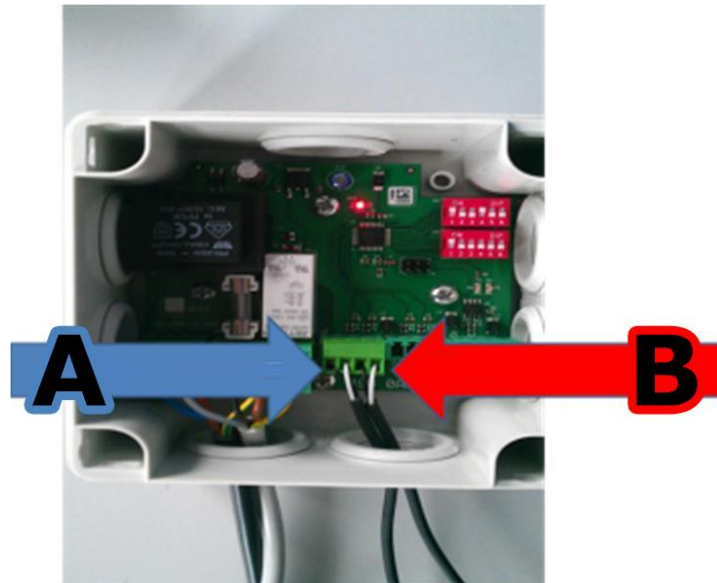
Warm water right



2. Temperature sensors of the Harmosol

The left temperature probe is used for the cold pool water thermometer (A). This temperature probe is put via a T-piece and a 1/2 inch Teflon insert (C) in the filter outlet.

The right temperature probe is used for the solar heating air thermometer (B). The air thermometer should be on top of the solar panels fully exposed to the sun.



3. Setting the delta-temperature on the Harmosol

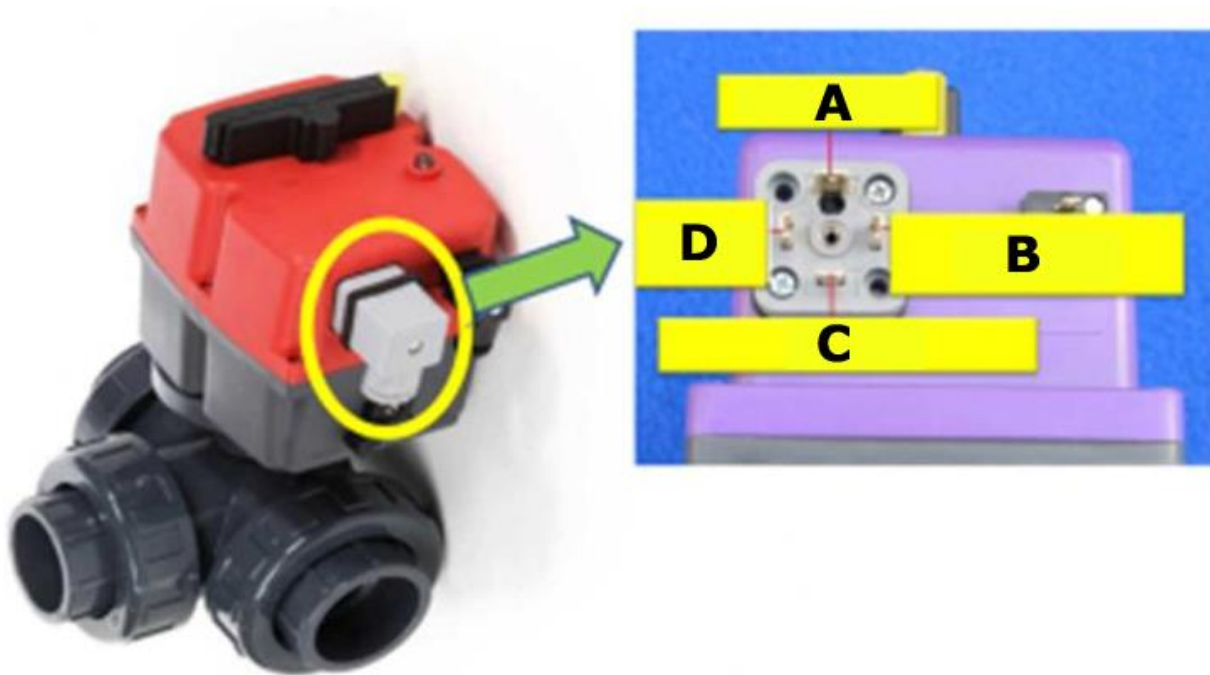
Choose the maximum temperature difference between the outer air and the water (Yellow circle). Usually a difference of 4 degrees is chosen. In the example photograph below : when the outer air is more than 4°C warmer than the water, the automatic valve (or pump) will be activated and the will send pool water through the heating system.



Setting temp difference

- 0°C = 000000
- 1°C = 000001
- 2°C = 000010
- 3°C = 000011
- 4°C = 000100
- 5°C = 000101
- 6°C = 000110
- 7°C = 000111
- 8°C = 001000
- 9°C = 001001

4. Connecting the automatic valve with the Harnosol



6

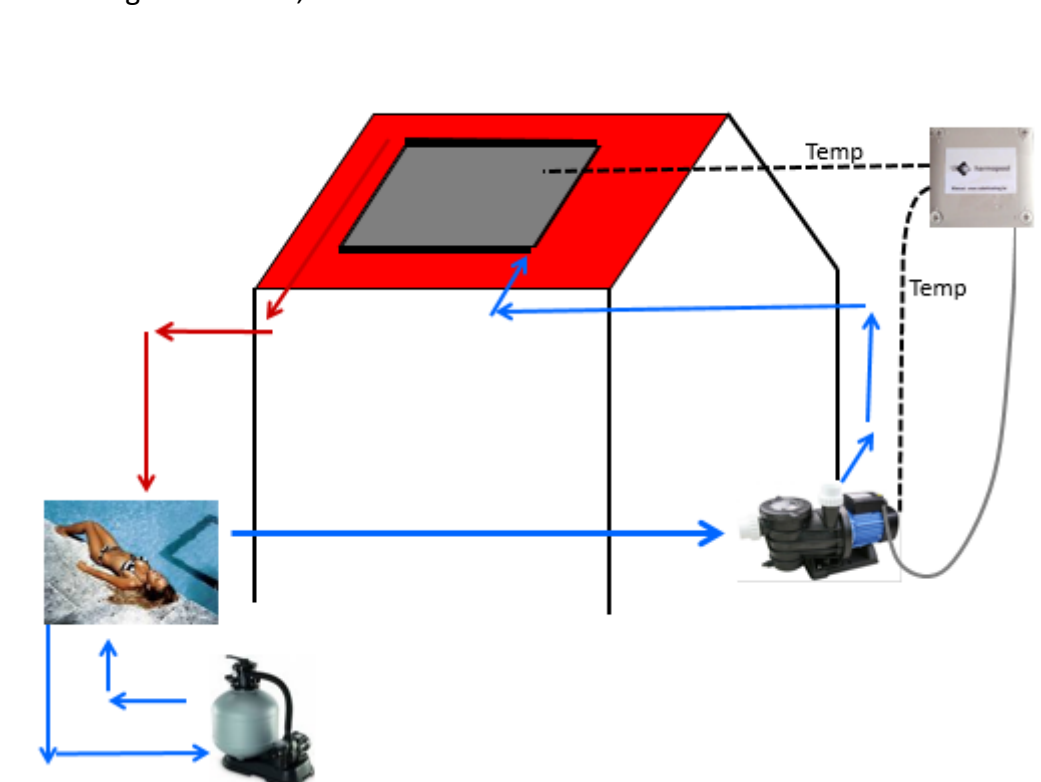
A	Earthing
B	Black
C	Brown
D	Blue or Grey

The Harnosol has been cabled beforehand. In the picture above, you can find the instructions regarding the connections. In this case, the warm water will be sent to the left. By switching the black and brown wire, the warm water will be sent to the right. The little black connecting cap is not used.

5. Connecting the Harmosol to a filter pump (Max. 1150 watt)

It is possible to control the flow through the solar heating system via a separate circulation system with pump, rather than via an automated valve. The maximum power of the pump is 1150 watt

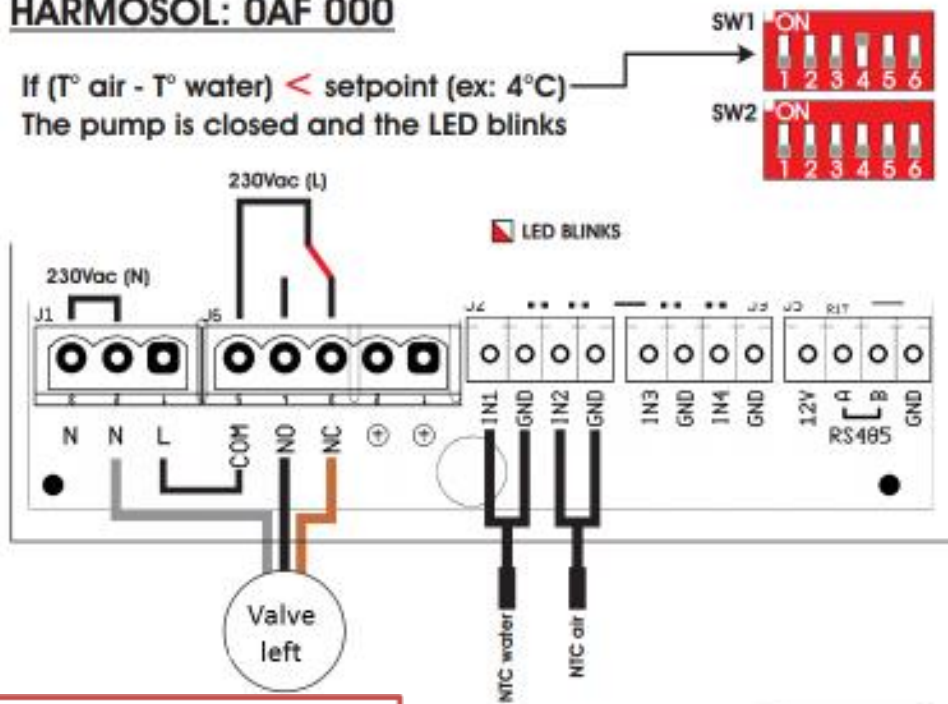
In this case, the black and the grey cables are to be connected to the circulation pump. The remaining brown wire, needs to be isolated as it can be loaded with 240V.



6. Connection scheme of the Harmosol

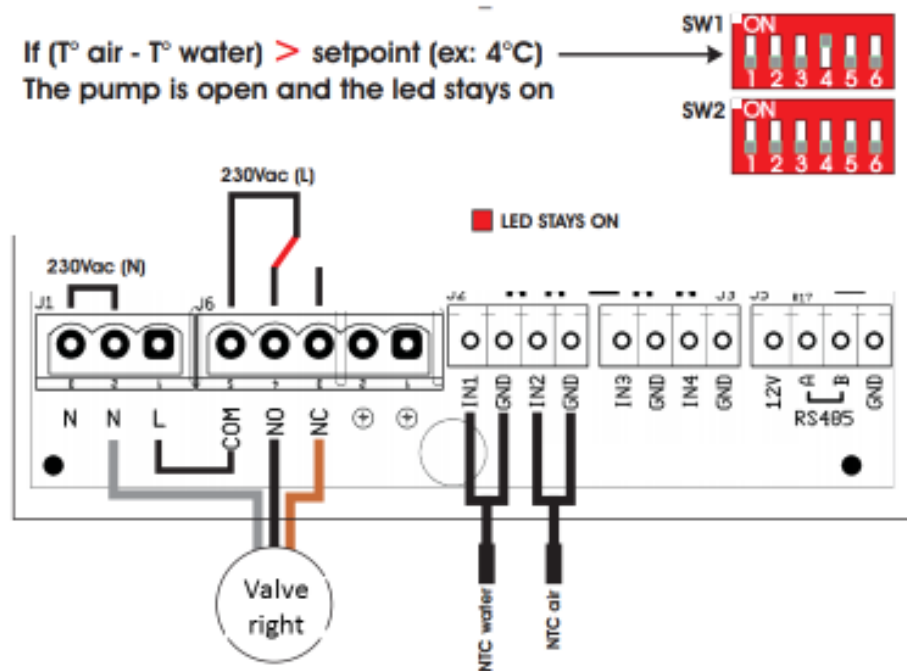
HARMOSOL: 0AF 000

If $(T^{\circ} \text{air} - T^{\circ} \text{water}) < \text{setpoint (ex: } 4^{\circ}\text{C)}$
 The pump is closed and the LED blinks



Attention! → It is necessary to insulate the **brown** wire since it will contain 220 Volt.

If $(T^{\circ} \text{air} - T^{\circ} \text{water}) > \text{setpoint (ex: } 4^{\circ}\text{C)}$
 The pump is open and the led stays on



What to do in case of power outage – manual operation

The automatic 3-way valve can also be used to manually, for example during a power outage. This can be done by placing the levers on the side on MANUAL instead of AUTOMATIC.



AUTO = automatic operation

MAN = manual operation

Attention!: the difference between the positions AUTO and MAN isn't more than 10°. Do not use force to prevent damage.