

# Operating Manual

## Solar Pumps „Water Splash“



These instructions relate **ONLY** to this product and contain important information for using the product for the first time. Please keep these instructions for later reference and should always accompany the product in the event of transference to a new user.

### 1. Introduction

Dear Customer, thank you for purchasing the solar pump kit. With this solar pump kit you purchased a product manufactured according to the current state of technology.

**CE** This product fulfils all requirements of the valid European and national regulations. The conformity was proved. The relevant declarations and documentation are deposited with the manufacturer.

To maintain this state and guarantee a safe operation, you as the user will have to follow this operating manual!

### 2. Safety Instructions



- In case of damages caused by not following this operating manual, the warranty rights will expire! We exclude liability for any consequential damages!
- We exclude liability for property or personal damages caused by inappropriate handling or not following the safety instructions.
- In these cases any guarantee rights will expire.

Due to safety and admission reasons (CE) it is not allowed to arbitrarily reconstruct and/or change the solar pump kit.

Therefore, please keep to the operating manual.

The accident prevention rules of the association of the industrial trade cooperative association for electric plants and working material are to be considered in industrial environments

### 3. Appropriate use

This submersible pump has been constructed for pumping water into garden ponds, water fountains, etc.. The pumping can be conducted via a hose attachment or via the supplied standpipes with water sprinklers.

A solar module featuring a voltage of 12 - 24 volts can be used as the source of energy. When using such a solar module, the pump only works when the solar module has been provided with enough of the sun's rays.

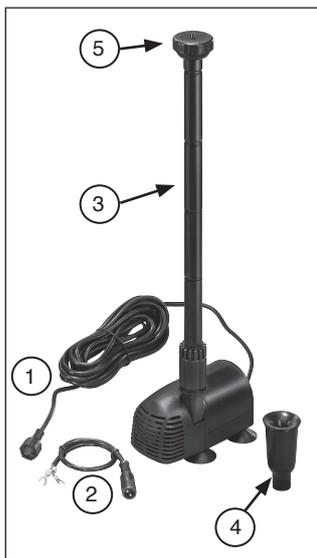
The pumping performance can be set using the regulator on the front side of the pump. The water pump does not feature an on/off switch. As soon as the pump is connected with its electrical supply, it will begin pumping water.

### 4. Assembly and start-up procedure

1. Completely unroll the connecting cable at the pump.
2. Attach the ascending pipes onto the pump or connect a hose to the outlet of the pump. If the ascending pipes are used it is possible to attach a water sprinkler or water bell. A step sprinkler and a water bell are included in the scope of delivery.
3. Put the pump into the water. In doing so, please make sure that the pump is not directly placed on the pond bottom. Because at the bottom of the pond is the greatest contamination which would lead to a clogging of the nozzle holes. Place the pump onto a stone or platform in the pond.
4. Now power the water pump by means of a solar module, battery or direct current power pack. For this purpose, please use the enclosed plug including cable (brown = positive pole, blue = negative pole).
5. In case you bought this pump as a complete solar system in one set, then the matching plug is already installed in the solar module.

**Note:** The plug is protected against reverse polarity; please do not apply force when plugging it in.

1. Connecting cable
2. Adapter for the connection to power packs or batteries (not included in the set with a solar module)
3. Ascending pipes
4. Water bell
5. Water sprinkler

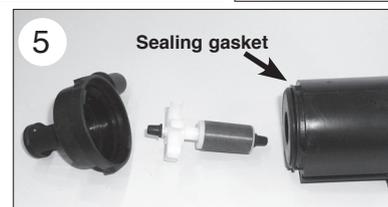
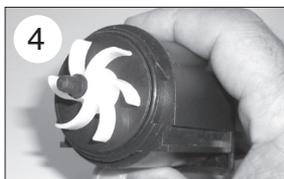
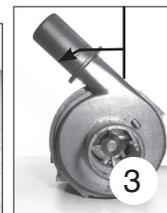
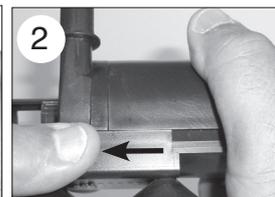
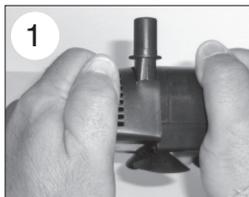


### 5. Care and Maintenance

In order to maintain the performance of the pump it is required to occasionally, depending on the water contamination, rinse the pump with warm water. For this purpose, open the filter housing as follows:

**Note:** Please do not apply force when assembling and disassembling the pump. The parts are very delicate and may break easily. If required, spare parts are available under [www.esotec.de](http://www.esotec.de).

1. Disconnect the plug from the pump.
2. Remove the ascending pipe or the hose and take the pump out of the water.
3. Slightly rotate the coarse filter anticlockwise and take off the front part (figure 1). A certain amount of force is required in order to loosen the snap lock.
4. Remove the bottom plastic slide forward (figure 2), rotate the front cover of the pump by approx. 45° anticlockwise (figure 3) and carefully remove the cover forward (figure 4). In doing so, please pay attention to the ceramic shaft and the rubber plug, this shaft may break easily or get lost.
5. Carefully pull the impeller wheel with the plastic shaft out of the pump (figure 5).
6. Now carefully clean all parts with warm water.
7. Now reassemble the pump in reverse order and pay attention to the correct fit of the ceramic shaft and sealing gasket (figure 5).



### 6. Technical Data

Pump type:	Water Splash 470	Water Splash 610	Water Splash 1350
Art.-No.:	101050	101051	101052
Operating voltage:	12 VDC	12V-24 VDC	12V-24 VDC
Discharge head/flow rate 12 VDC:	max. 0.8m/470 l/h	max. 0.8m/470l/h	max. 0.8m/980l/h
Discharge head/flow rate 17 VDC:	--	max. 1.5m/610 l/h	max. 1.9m/1350l/h
Discharge head/flow rate 24 VDC:	--	max. 2m/750l/h	max. 3m/1560l/h
Power consumption 12V/17V/24V:	2,5W/-/-	2W/7W/12W	3W/11.5W/21.5W
Protection class:	IP 68	IP 68	IP 68
Operating temperature:	+4°C to +40°C	+4°C to +40°C	+4°C to +40°C
Cable length:	5 m	5 m	5 m
Minimum output solar module:	5 Wp (24 cells)	10 Wp (36 cells)	20 Wp (36 cells)

**Note:** The pump is only suitable for the delivery of water.

**Note: Protect the pump against frost!**

During cold winter months, it is required to take the pump out of the water and store it at a frost-free place. The solar module may be left outside during the winter.

### 7. Safety information:

**DANGEROUS for children!** Children could easily swallow the small parts that come with this pump and its packaging material. Please keep at a safe distance. These parts could otherwise lead to choking or suffocation!

**WARNING against danger of stumbling!** Lay out the connection cable such that it does not create the threat of tripping or stumbling!

**CAREFUL: material damage!** If you set up the solar module without a module holder, you must make sure that it is sturdy enough to retain its position. If the module falls down or a foreign object hits against it, the solar module can be damaged.

**Notes on disposal for electronic devices:**

Esteemed customer, once you have decided to part ways with this article, please dispose of it in accordance with the current, local law. Information is provided by the municipal appointment.



### Manufacturer/ importer/ Spare parts:

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