



Operating manual solar water pump „Marino“

Customer support:

If you have problems or questions regarding this product, simply contact us!
Monday to Friday 8 am to 12 noon and 1 pm to 4 pm.
 By phone: 09605-92206-0
 By e-mail for ordering spare parts: ersatzteil@esotec.de
 By e-mail for questions about the product: technik@esotec.de
Product: Manufacturer Item No.: 101759

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 light. With this solar light you purchased a product manufactured according to the current state of technology.

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 light.

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. Intended use

This submersible pump is designed for pumping water in garden ponds, fountains, water dishes, etc. It can pump water through a hose connection or can be operated through attached lifting tubes with water sprinklers.

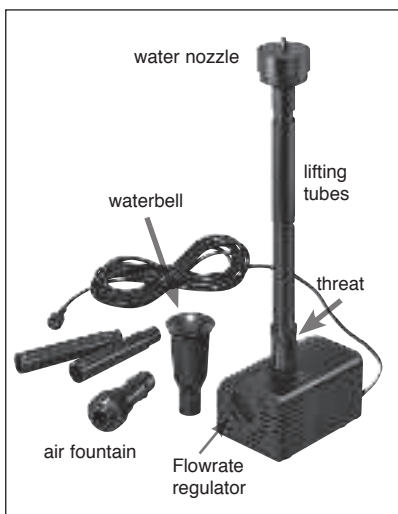
A solar module or a power pack with a voltage of 12 to 24 volts can be used as the energy source. When used with a solar module, the pump works only if enough solar radiation strikes the solar module.

A battery box (accessory) is delivered along with this pump.

The delivery rate of the pump can be adjusted using the regulator on the front side of the pump. The water pump has no On/Off switch. As soon as the pump is connected to its power supply, it starts pumping water.

4. Installation and commissioning

1. Roll out the connecting cable of the pump completely.
2. Ensure that the cap is firmly in place on the socket.
3. Place the pump in water (please note Point 5 here).
4. Connect the lifting tubes till they project out of the water surface. For this, first attach the reducer to the pump.
5. You can now choose from 3 different water nozzles.
6. Alternatively, the pump can also be used for pumping water through a hose. For this, you just have to attach a hose to the pump's pipe.
7. Now supply power to the water pump through a solar module. Use the enclosed plug with cable (brown = positive pole, blue = negative pole) for this. If you have purchased this pump as a complete solar power system, then the appropriate plug is already attached to the solar module.



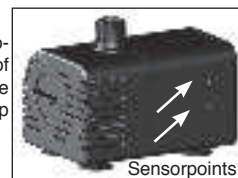
Note: The plug has reverse-polarity protection, no force should be used while inserting. The glass of the solar module is fragile. Caution! Risk of injury! A broken module cannot be repaired again and must be disposed off in an environmental-friendly way.

8. If the pumping capacity is too high, you can reduce the amount of water. Simply

turn the regulator on the front side of the pump in clockwise direction. Please do not use force while adjusting. The adjustment range is 45°.

5. Dry run protection

The pump is equipped as standard with a dry run protection. Two sensor points are provided on the side of the housing for this. The pump works if these points are under water. If a point projects out of the water, the pump does not work.



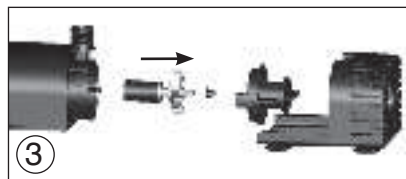
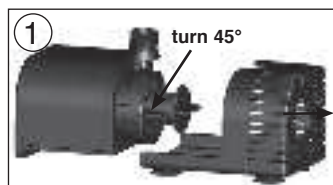
6. Care and maintenance

For optimum performance of the pump, it must be washed occasionally with warm water depending on the water contamination. To wash the pump, open the housing as follows:

Note: Please do not use force while dismantling or assembling the pump. The parts are very fragile and can break easily.

1. Disconnect the pump's plug.
2. Pull the front cover of the pump forward like a slide gently (Figure 1).
3. Turn the front cover of the pump by about 45° clockwise (Figure 1) and carefully pull the cover forward (Figure 2). Watch out for the plastic shaft and the seal while doing this.
4. Carefully drag the impeller out of the pump (if necessary, use pliers). (Figure 3).
5. Now clean all the parts carefully with warm water.
6. Then plug the shaft with the impeller carefully into the hole of the pump. Ensure that the shaft is fitted firmly.
7. Now place the cover carefully over the pump. Ensure that the seal is fitted properly.
8. Turn the front cover again by 45 degrees counter-clockwise into the starting position.
9. Slide the lower part of the pump completely into the pump housing.

The pump is ready to use again.



7. Malfunction

Pump is not pumping water

- Is the pump completely submerged in water? Dry run protection (Point 5)
- Is the polarity of the supply voltage reversed? Cable colour brown = + pole, blue = negative pole
- Is the pump dirty? Cleaning the pump, see Point 6.

8. Technical data

- Operating voltage: 12 - 24 V DC
- Degree of protection: IP 68
- Class of protection: III
- Power consumption: Approx. 6 W at 12 VDC - approx. 35 W at 24 VDC
- Pump lift: Max. 1 m at 12 VDC - max. 3,5 m at 24 VDC
- Delivery rate: Max. 1000 l/h at 12 VDC - max. 2000 l/h at 24 VDC
- Operating temp. range: +4 to +40°C

Note: The pump is only suitable for pumping water.

Note: Protect the pump from frost!

During cold winter months, the pump must be taken out of the water and placed/ stored in a warm area. The solar module can spend the winter outdoors.

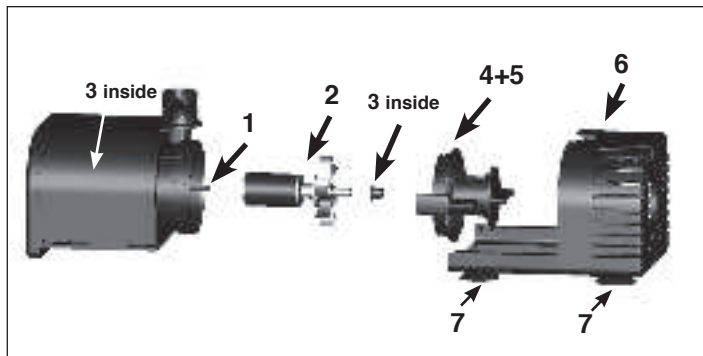
9. Safety information:

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.

10. Spare parts



1. White ceramic shaft:	Item No.: 911060
2. Pump impeller:	Item No.: 911061
3. Internal rubber bush:	Item No.: 911062
4. Front cover:	Item No.: 911063
5. Seal for cover:	Item No.: 911064
6. Sliding carriages with suction bases:	Item No.: 911065
7. Suction bases (4 pieces)	Item No.: 911066
8. Complete nozzle set:	Item No.: 911067

Manufacturer/Importer

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Tel.-Nr: 09605-92206-0 - Fax.-Nr: 09605-92206-10 - Internet: www.esotec.de

Disposal:

Dear customer,
please cooperate in avoiding waste. When you intend to dispose of the product in future, please consider that it contains valuable raw materials suited for recycling.

Therefore, do not dispose it of with domestic waste but bring it to a collection point for the recycling of waste electrical and electronic equipment.

Thank you very much for your cooperation!



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11. Accessorie

Extender cable (5 m) for water pump

Item-no: 101736

