

# Operating instructions Solar Pump System „Rimini-S“ with sprinkler set and dry-run protection

GB

CE

Item No. 101701

This operating manual belongs exclusively to this product. It contains important information on commissioning and handling. Please observe this even if you pass this product on to third parties.

Therefore, please archive this operating manual for future reference.

## 1. Introduction

Thank you for purchasing this product. You have purchased a product that has been manufactured according to the latest state of the art. In order to maintain this condition and ensure safe operation, you as the user must observe these operating instructions.

## 2. Intended use

The pond pump set is designed for pumping water in garden ponds, fountains, water bowls, etc. It can pump water via a hose connection or be used as a water sprinkler via the enclosed riser pipes and nozzle sets.

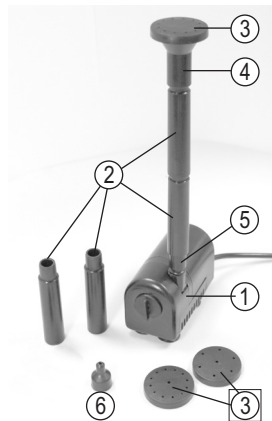
One 2 Wp solar module is included in the scope of delivery as the energy source. The pump only operates when sufficient sunlight hits the solar module. A new type of dry-running protection prevents operation without water, which is harmful to the pump.

The pump's flow rate can be adjusted using the control on the front of the pump. The water pump does not have an on/off switch. As soon as the pump is connected to its power supply and is in the water, it will start pumping water.

The safety instructions and all other information in this operating manual must be followed without exception. Read the entire operating manual carefully before installation, connection and commissioning.

## 3. Scope of delivery

- Solar panel with ground spike and wall holder
- Pump with connection cable (1)
- 4x pipes (2)
- 3x water jets (3)
- Nozzle holder (4)
- Adapter (5)
- Single-jet nozzle (6)
- User manual



## 4. Symbol explanations, inscriptions



This symbol is used in this manual when there is a risk of death from electric shock.



This symbol indicates special hazards or important information that must be observed.



The arrow symbol is used when special information or tips are to be given.



The product complies with protection class III and operates with low voltage (see chapter „Technical data“).

## 5. Safety instructions



The warranty shall be void in the event of damage to the product caused by failure to observe these operating instructions. We shall not be liable for any consequential damage resulting therefrom. The same shall apply to damage to property or personal injury caused by improper handling or failure to observe the safety instructions.

- The product must not be modified or altered. Doing so will not only invalidate the approval/warranty, but may also lead to safety issues.
- Ensure that the product is kept out of the reach of children; it is not a toy!
- The pump is only intended for operation with a suitable voltage/power supply (see chapter „Technical data“).



Never connect the pump to the mains voltage, as this will destroy it and void the warranty! There is also a risk of death from electric shock!

- The product must not be used to convey drinking water or other foodstuffs.
- Only fresh water may be pumped, as otherwise severe corrosion will occur.

- Keep people and animals away from the pump's suction area. Hair or body parts could be sucked into the pump, posing a risk of serious injury!
- The pump may only be started up if the housing is correctly closed. When the pump is connected to the power supply, never reach into the openings of the pump or insert any objects into them. There is a risk of serious injury!
- The product must not be subjected to mechanical stress. Handle the product with care, as it will be damaged by knocks, blows or even falling from a low height.
- Never hold the pump by the cable; do not pull the pump out of the water by the cable. This can damage the cable and the pump.
- At temperatures around or below freezing, ice forms, which can destroy the pump due to the greater volume of ice. Therefore, remove the product from the water in good time. Drain the water and store the product in a dry, frost-free room.
- Keep packaging material away from children, as it could become a dangerous toy for them.
- If the product is damaged or no longer works, stop using it and have it checked by a specialist or dispose of it in an environmentally friendly manner.
- If you have any questions that are not answered in this operating manual, please contact us or another specialist.

## 6. Connection and commissioning

### a) General

Select a location for the solar module that is exposed to full sunlight for as long as possible. The solar module achieves its maximum output when sunlight hits it at a right angle. The angle of the solar module is adjustable.

Depending on the installation location, you can also use the extension tube between the ground spike and the solar module to improve the positioning of the solar module.



Do not use force when attaching the ground spike/extension tube to the solar module.

When disconnecting the components, take special care to hold the solar module firmly before pulling on the ground spike/extension tube.

### b) Floor mounting

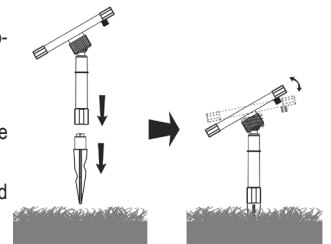
The ground spike can be used to place the solar module in a suitable location on the ground.



Do not choose a stony/hard surface.

Do not use tools to drive the ground spike into the ground, as this will damage it.

Press the ground spike into the ground using only your hand.



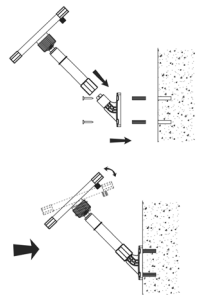
### c) Wall mounting

The supplied wall bracket can be screwed onto a vertical, stable surface (e.g. a stone or concrete wall or the wooden beam of a carport).

Use suitable screws and, if necessary, wall plugs depending on the nature of the surface.



When drilling or tightening screws, ensure that no cables or wires are damaged, as there is a risk of fatal electric shock!



### d) Preparation

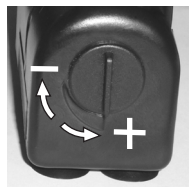
- The pump has a flow regulator. The flow rate can be adjusted using the rotary knob on the front of the pump.

Turn clockwise to the right = reduce flow rate

Turn counterclockwise to the left = increase flow rate



For the first start-up, you should set the flow rate to the maximum.



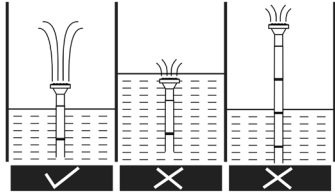
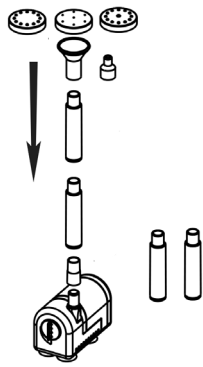
- Unroll the connection cable on the pump completely.
  - Depending on the water depth, attach one or more riser pipes to the top of the pump. Then the nozzle holder and one of the water nozzles can be attached.
- Alternatively, you can connect a suitable hose to the pump outlet and use it to operate existing water features.

### e) Attach nozzle attachments to pump

First, attach the small reducer to the pump outlet (it may already be attached when delivered).

Then, depending on the depth of the pond, attach the extension pipes supplied to the connecting piece. Next, take the cup and snap the desired nozzle onto it. You can also attach the jet nozzle directly to the riser pipes.

→ If the riser pipes are not sufficient for the depth of your pond, you can purchase individual pipes as accessories in our online shop ([www.solarversand.de](http://www.solarversand.de)).



### f) Position and connect the pump

- Submerge the pump completely in water. Please also refer to Chapter 7. Move it back and forth slightly to allow air to escape from the pump.

→ The pump must be positioned so that no aquatic plants (or mud) can enter the suction area. If necessary, secure the pump to a stone so that it cannot tip over or slip. However, do not place stones directly on the pump. The suction cups on the bottom of the pump allow it to be fixed to a smooth surface (such as a tile).

Do not place the pump directly on the pond floor. There is always a lot of debris (algae, leaves, mud) on the pond floor, which is sucked in by the pump and quickly clogs the sprinkler nozzles.

We therefore recommend placing the pump on a stone so that it is slightly higher than the bottom of the pond (at least 5–10 cm, depending on the installation location).

Protect the cable from sharp edges.

- **Connect the plug on the connection cable to the solar panel.**



The connection is protected against reverse polarity. Do not use force when connecting the plugs!

Secure the plug connection by tightening the cap to prevent water or moisture from entering.

The pump starts automatically as long as it is in the water and the voltage/power supply is sufficient (e.g. when operated via a solar module) and begins to pump water.



During initial operation, air may be present in the pump impeller and the pump may not deliver water immediately. It may take a few seconds for the incoming water to displace the air from this area.

If this takes longer, it may help to move the pump back and forth slightly (or even remove the riser pipes) until water is pumped out.

During this process, however, the pump must always remain submerged, otherwise the dry-running protection (see Chapter 7) will switch off the pump.

### 7. Electronic dry-running protection (current measurement)

The pump is equipped with electronic dry-running protection. This works by internally measuring the pump's power consumption.

If there is no water in the pond or the pump is not submerged in the pond, the pump will suck in air (dry running). The pump's power consumption will drop significantly! The pump stops to prevent dry running. The pump then attempts to restart 5 times every 5 seconds. If this fails, the pump waits approx. 5 minutes before attempting to restart one time again. This attempt is made once every 5 minutes. If there is now water in the pond, the pump's power consumption is higher and it switches to continuous operation.

If you do not want to wait 5 minutes, disconnect the pump from the power supply for approx. 10 seconds. After reconnecting to the power supply, the pump will attempt to restart 5x every 5 seconds.

### 8. Maintenance + Care

The product is maintenance-free except for occasional cleaning. Depending on water contamination or algae formation, this cleaning may need to be carried out more frequently.



Do not use force when dismantling or reassembling. The plastic parts of the pump are very delicate and can break easily.

Never use aggressive cleaning agents. These can damage the surfaces and residues can also get into the water.

Lukewarm water and a soft cloth or sponge are ideal; you can use a soft toothbrush to remove stubborn dirt/algae. However, do not press too hard on the surfaces when cleaning.



You can always find the latest information on available spare parts and accessories on our website for the product.

Before cleaning, first disconnect the power supply to the pump. Then remove the pump from the water. Disconnect the riser pipes and the nozzle attachment.

**To clean, proceed as follows:**

- 1 Carefully pull the pump cover off the lower section like a slide.
- 2 Turn the front cover of the pump approximately 45° to the left in an anti-clockwise direction.
- 3 Carefully pull the cover forward to remove it. The image shows the rotor shaft with the pump wheel and the small black rubber bushing.
- 4 Carefully pull the rotor shaft out of the cover; then carefully pull the ceramic shaft out of the pump wheel.

This may also cause the small black rubber bushing to come loose from the shaft, as well as a small white plastic disc.

Now carefully clean all parts with warm water and a soft brush. Do not use aggressive cleaning agents under any circumstances!

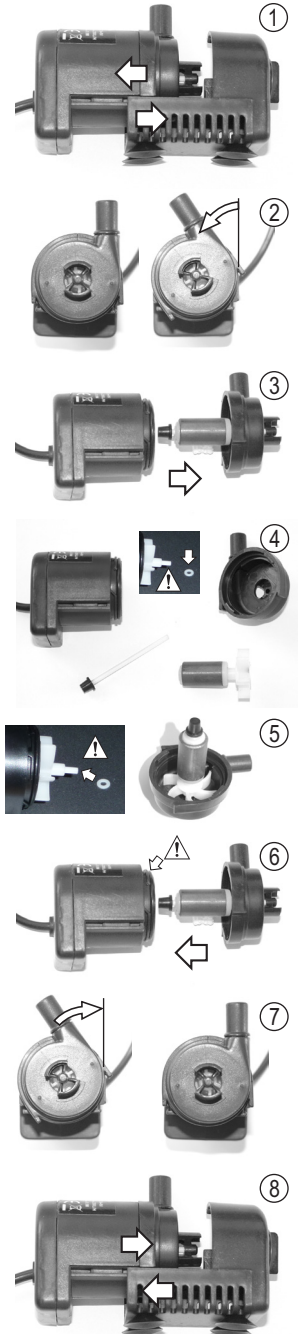
The white ceramic wave is very fragile, so do not bend it or drop it!

- 5 Reassemble the rotor shaft and carefully insert it with the impeller into the hole in the front cover. If a small plastic disc fell out during disassembly, it belongs on the side of the ceramic shaft marked with an arrow in the illustration.
- 6 Check that the seal is correctly positioned.

Insert the cover with the assembled rotor shaft into the pump. Do not use force when assembling; the cover should fit together without any effort.

Remember to attach the cover at a 45° angle, see Figure 7.

- 7 Turn the front cover 45° clockwise to lock it onto the pump housing.
- 8 Push the two parts of the pump housing back together until they click into place see Figure 8.



## 9. Troubleshooting

### Pump not working

- The voltage/power supply is insufficient (e.g. if the pump is powered by a solar panel and there is not enough sunshine).
- When starting up, it may take a few seconds for the pump to start running.
- Check the voltage/power supply and the plug connection of the pump.
- The pump impeller is blocked. First disconnect the power supply to the pump. Then remove the pump from the water and clean it, see Chapter 9.
- The pump is not submerged in water; the dry-running protection has been triggered. Please refer to Chapter 7.

### Pump does not deliver water

- During initial operation, air may be present in the pump impeller and the pump may not deliver water immediately. It may take a few seconds for the incoming water to displace the air from this area.

If this takes longer, it may help to move the pump back and forth slightly (or remove the riser pipes/nozzle attachments) until water is pumped out.

During this process, however, the pump must always remain submerged, otherwise the dry-running protection (see Chapter 7) will switch off the pump.

- Check the nozzle attachment for dirt.

### Pump operates irregularly

- When operating via a solar module, the amount of sunlight reaching the solar module is insufficient (shading, clouds).

### Flow rate too low

- When operating via a solar module, the amount of sunlight reaching the solar module is insufficient (shading, clouds).
- The pump (or the nozzle attachment) is dirty. First disconnect the power supply to the pump. Then remove the pump from the water and clean all parts, see Chapter 9.
- Adjust the flow rate using the rotary knob, see section 6. a).

## 10. Decommissioning/storage

If you do not intend to use the product for a long period of time, disconnect it from the power supply.



At temperatures around or below freezing, ice forms, which leads to the destruction of the pump due to the greater volume of ice.

Therefore, remove the pump from the water in good time. Remove the riser pipes and the nozzle attachment and allow the water to run out of the pump. Clean all parts (pump, riser pipes, nozzle attachment) and store them in a dry, frost-free room that is inaccessible to children.

## 11. Disposal



All electrical and electronic equipment placed on the European market must be marked with the waste bin symbol shown on the left. This symbol indicates that this equipment must be disposed of separately from unsorted municipal waste at the end of its service life.

Every owner of old appliances is obliged to dispose of them separately from unsorted municipal waste. You are also obliged to remove old batteries and accumulators (which are not enclosed in the old appliance) and lamps from the old appliance before handing it in at a collection point, provided this can be done without causing damage.

Distributors of electrical and electronic equipment are legally obliged to take back old equipment free of charge. We offer the following free return options (further information is available on our website):

- at the collection points we have set up
- at the collection points of public waste disposal authorities or at the take-back systems set up by manufacturers and distributors within the meaning of the ElektroG (Electrical and Electronic Equipment Act)

The end user is responsible for deleting personal data on the old device to be disposed of.

Please note that in countries outside Germany, additional obligations may apply to the return and recycling of old appliances.

## 12. Technical specifications

### Solar module

- Nominal capacity: 2 Wp
- Nominal voltage: 6 V
- Nominal current: 340 mA
- No-load voltage: 7,2 V
- Short-circuit current: 400 mA
- Protection type: IP 54
- Temperature range: -30°C to +75°C

### Water pump:

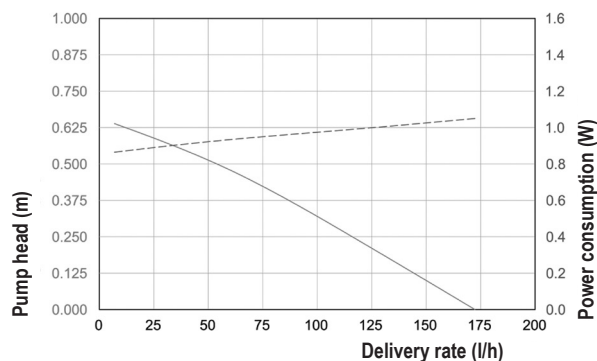
- Operating voltage: 6 V DC
- Max. pump lift: max. 70 cm
- Delivery rate: max. 175 l/h
- Power consumption: 0,8 to 1,1 W
- Max water depth: 1 m
- Protection type: IP 68
- Protection class: III
- Operating temperature range: +4 to +40°C
- Dry run protection: Yes

## 13. Pump curve



Please note that the delivery head and the delivery rate are interdependent; the following applies: the greater the delivery head, the lower the delivery rate.

The number of riser pipes and the nozzle attachment also influence the delivery head and flow rate. If a hose is connected to the pump outlet, its diameter, length and positioning (e.g. bends) influence the delivery head and flow rate.



## 14. Spare parts



You can always find the latest information on available spare parts and accessories on our website for the product.

### Imprint

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www.esotec.de

### Customer service:

If you have any problems or questions about this product, please contact us!  
Telephone: 09605/92206-0 (current telephone hours can be found at www.esotec.de)

Email for spare parts orders: ersatzteil@esotec.de

Email for questions about the product: technik@esotec.de