

# Operating Manual Solar Pump Systems Turin, Modena and Riviera



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. Function and intended Use

- The pump system is designed for the outdoor use in garden ponds. The pump delivers water depending on the solar radiation onto the solar module.
- **Direct solar radiation is required for the function of the pump.**
- The pump system is particularly characterized by its ease of assembly. Tools are not required for the assembly and installation. For the start-up, the system requires the full solar radiation onto the solar module.
- The pump must not be used for the delivery of drinking water.
- The device does not have any on-off switch. The solar pump can pump water (the provided that the corresponding solar radiation is available) as soon as the pump and the solar module are connected to each other.
- In order to avoid a disturbing dabbling, simply slightly telescope the ascending pipe.
- In order to ensure a safe interruption of the delivery, it is required to disconnect the cable connection between the die solar module and the pump.

## 4. Assembly and Start-up

The pump system consists of the following parts:

1 piece solar module including retainer, 1 piece submersible pump including 5 m connecting cable, 4 ascending pipes and 2 water nozzles.

1. Completely unroll the connecting cable at the pump.
2. Attach the ascending pipes onto the pump and then attach one of the desired sprinklers onto the ascending pipes.
3. Put the pump onto some stones in the pond. Please avoid a place directly at the bottom of the pond because there, a particularly large amount of dirt is suctioned by the pump which would lead to a fast contamination of the pump.
4. Now connect the plug of the pump with the socket of the solar module and tighten lid.
5. Position the solar module at a sunny shadow-free place facing south. For this purpose, please use the enclosed module retainer.

**Note:** The plug is protected against reverse polarity; please do not apply force when plugging it in. The glass of the solar module is fragile.

**Caution: risk of injury!** A broken module can no longer be repaired and has to be disposed of in an environmentally sound way.

**Note:** For further assembly and care instructions, please see the manual of the water pump.

## 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 and its parts with warm water.

For instructions regarding care and maintenance of the pump, please see the manual of the pump.

Occasionally wipe the solar module with a soft and slightly wet cloth.

**Note:** Before carrying out work at the pump, please disconnect the plug connection between the pump and the solar module in order to prevent any accidental start during the ongoing work.

## 6. Technical Data

Pump system:	Turin	Modena	Riviera
Art.-No.:	101680	101681	101682
Operating voltage:	12 VDC	17 VDC	17 VDC
Discharge head/flow rate:	max. 0.9m/470 l/h	max. 1.5m/610 l/h	max. 1.9m/1350 l/h
Power consumption:	max. 3 W	max. 7 W	max. 11.5 W
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
<b>Power solar module:</b>	<b>5 Wp</b>	<b>10 Wp</b>	<b>20 Wp</b>
Nominal voltage:	12 VDC	17.5 VDC	17.28 VDC
Protection class:	IP 65	IP 65	IP 65
Temperature range:	-30°C to +75°C	-30°C to +75°C	-30°C to +75°C
Dimensions (LxWxH):	255x205x20 mm	400x255x25 mm	520x355x25 mm

### Note: Protect 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 Instructions:

**DANGER for children!** Keep children away from swallowable small parts (ascending pipe and sprinklers) and the packaging material. Danger of suffocation!

**WARNING:** risk of stumbling! Lay the connecting cable so that it will not become a trip hazard!

**CAUTION Material damage!** When setting up the solar module without module bracket, please pay attention to an adequate stability. The solar module may be damaged in case of tipping or in case of an impact of a foreign object.

### 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!



## Manufacturer, spare parts, service:

esotec GmbH  
Weberschlag 9  
Tel.-Nr: +49 9605-92206-0  
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# Operating Manual

## Solar Pumps Turin, Modena and Riviera



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.

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

### 2. Safety Instructions



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

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### 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.

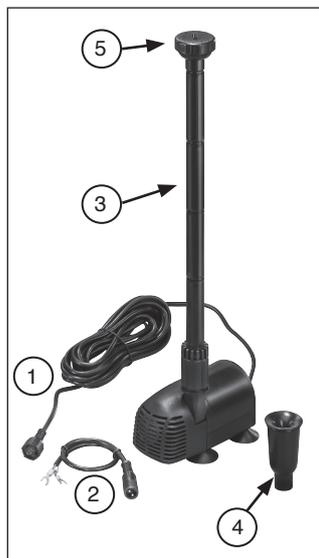
The pumping performance can be set using the regulator on the front side of the pump. The water pump does not feature an on/off switch. As soon as the pump is connected with its electrical supply, it will begin pumping water.

### 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

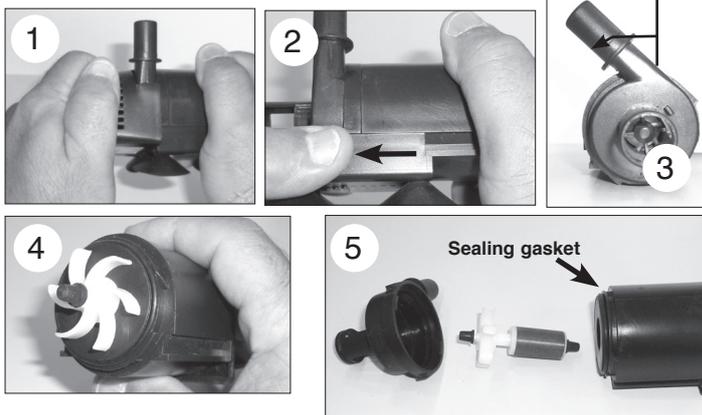


### 5. Care and Maintenance

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:	Turin	Modena	Riviera
Set-Art.-No.:	101680	101681	101682
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:

**esotec GmbH** - Gewerbegebiet Weberschlag 9 - D-92729 Weiherhammer  
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 e-mail: [info@esotec.de](mailto:info@esotec.de) Internet: [www.esotec.de](http://www.esotec.de)

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# operating manual Pond Filterbox - S



## Customer support:

If you have problems or questions regarding this product, simply contact us!

By phone: +49 9605-92206-0

By e-mail for ordering spare parts: [ersatzteil@esotec.de](mailto:ersatzteil@esotec.de)

By e-mail for questions about the product: [technik@esotec.de](mailto:technik@esotec.de)

Product: Manufacturer Item No.: 101716

**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.**

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

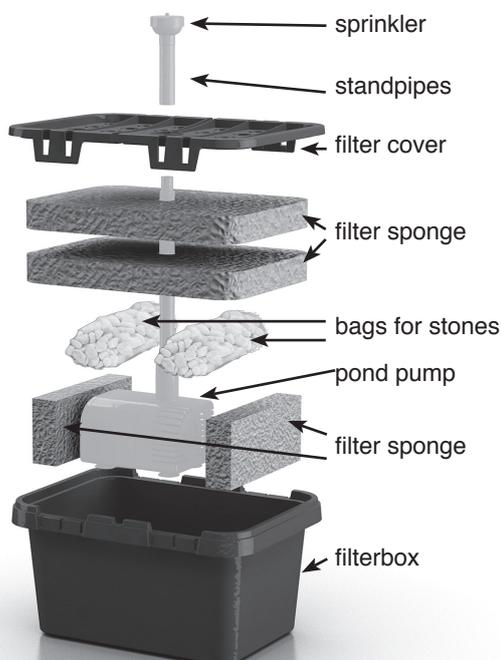
- The pond filter box is designed for outdoor use in garden ponds.
- The pond filter box is characterized by its ease of installation. Tools are not required for the setup.
- The pond filter box may be used together with the esotec solar pond pumps.

## 4. Assembly/installation and Start of Operation

The filter box consists of the following components:

1 piece filter bucket with cover, 4 filter inserts, 2 mesh bags for stones or filter materials (stones etc. not included in the scope of delivery).

1. Remove the cover from the filter bucket to lift the 4 taps and take all parts out of the filter.
2. Completely unroll the connecting cable of your pump (pump not included in the scope of delivery) and assemble the filter as shown in the illustration below.



3. Now lower/submerge the pond filter box into the garden pond so that the sprinkler still protrudes from the water. If required, place the filter box on top of a stone or extend the standpipe accordingly with additional supports. Those are available from your dealer or in the Internet under [www.esotec.de](http://www.esotec.de).
4. Now connect your pond pump according to the instructions with the pond pump system and put the system into operation.

## 5. Service and Maintenance

The pond filter box has to be cleaned as soon as the capacity of the pump is reduced. For this purpose, please first unplug the pump and take the pond filter box out of the water.

Clean the pump according to the instructions for the pump. Wash the filter sponges with lukewarm water and, if required, replace used filter materials.

Then reassemble the filter box as described under item 4.

## 6. Safety Instruction:

**DANGER for children!** Keep your children away from small swallowable parts and the packaging materials. Danger of suffocation!

**WARNING of trip hazard!** Please lay the connection cable so that it does not constitute a trip hazard!

## Manufacturer:

esotec GmbH - Gewerbegebiet Weberschlag 9 - D-92729 Weiherhammer  
Tel.-Nr: +49 9605-92206-0 - Fax.-Nr: +49 9605-92206-10 - Internet: [www.esotec.de](http://www.esotec.de)  
WEEE: DE59284711

## 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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