

# Using Instructions

## Solar Air-plus



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.

### 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](mailto:ersatzteil@esotec.de)  
By e-mail for questions about the product: [technik@esotec.de](mailto:technik@esotec.de)  
Product: Manufacturer Item No.: 101872

## 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

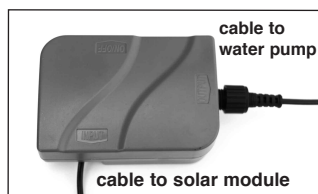
- The system for the outdoor use in garden ponds or bowls. The integrated battery box is charged depending on the solar radiation to the solar module and the pump will produce water correspondingly. In the shadow or in case of beginning darkness, the pump is supplied via the battery in the battery box. For up to several hours, depending on the charge rate.
- A direct solar radiation is required for the function of the pump.
- When starting the pump, the integrated battery pack may be partially discharged. Please charge the battery for one day with solar radiation and leave the pump switched-off while charging.
- The system is particularly characterized by its ease of installation and assembly. No tools are required for the assembly. For the start-up, the system requires a shadow-free solar radiation onto the solar module.
- On average, the battery pack should be exchanged by a new, identical in construction battery pack every 2 years.
- In order to safely interrupt the production (of water), you will have to switch-off the system or disconnect the cable connection between solar module and pump.

## 4. Assembly and commissioning

The pump system consists of the following components:

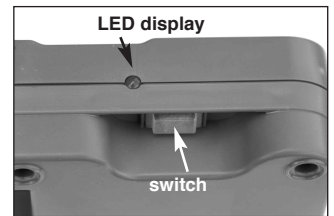
1 piece 3.5 W solar module with ground spike, battery box with a 6V/ 1200 mAh battery pack, 1 piece air pump with plastic housing with 3 m connection cable, 2 m air hose and spring stone.

1. Completely unroll the connection cable at the pump.
2. Connect the air hose to the outlet of the air pump.
3. Put the air stone on the other end of the air hose.
4. Now, connect the plug on the pump with the socket on the battery box and screw the cap nut tight.
5. Unroll the cable on the battery box and insert the plug into the socket of the solar module. Screw the cap nut tight.



6. Now, screw the ground spike tight at the back side of the solar module and insert the solar module at a shadow-free place within reach of the cable. The solar

module may be aligned towards the sun by means of the ball joint.



7. Leave the switch on the battery box in position „O“ (Off) and charge the integrated battery pack for several hours in the sun.
8. Put the switch in position „I“ (On) and the pump starts producing/lifting water.

The solar air pump system is now ready for operation.

## - LED display

- green = Battery is charged and pump is working
- red = Battery is discharged and pump don't work

**Note:** If the switch on the battery box is in position „0“, then the pump is switched off but the battery will still be charged.

**Note:** Do not apply force when inserting the solar module. The front side of the solar module is fragile.

**Attention:** Risk of injury! A broken may not be repaired anymore and has to be disposed of it in an environmentally sound manner.

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

## 5. Exchange of the battery pack

After one to two years, the capacity of the battery pack will decrease and has to be exchanged. The battery pack is available from the manufacturer or in shops.

1. Switch off the battery box via the switch and disconnect the box from the solar module and the water pump.
2. Unscrew the 4 screws from the bottom side of the battery box and remove the cover.
3. Unplug the battery pack and exchange it by an identical in construction battery pack. The battery pack is available from the manufacturer or in shops ([www.esotec.de](http://www.esotec.de) - Art.-No.: 901006).
4. Plug in the socket on the cable of the battery into the plug in the battery box with correct polarity.
5. Close the housing in reverse order.
6. Re-connect the battery box with the solar module and the water pump..
7. Switch on the switch on the battery box into position I (On).

**Note:** Exhausted batteries have to be disposed of it in an environmentally sound manner and shall not be disposed of with the household waste. Your dealer is required by law to take back old accumulators.

## 6. Care and Maintenance

The pump and the solar module do not need any special maintenance. If the spring stone should be clogged, it must be replaced through a new spring stone. These spring stones are available from the manufacturer or in specialty shops.

From time to time wipe the solar module clean with a soft and slightly moist cloth.

## 7. Troubleshooting

**The air pump does not work:**

- Not enough solar radiation? Align module towards the south!
- air stone blocked? Airstone swap!
- Blocked air hose?
- Check the plug connection at the cable!
- Is the battery pack older than 2 years? Exchange the battery pack!
- Is the battery box switched on?

## 8. Overwintering

The battery box should be stored during the winter fully charged. For this purpose, switch off the battery box by means of the switch. Place the solar module in the sun and charge the battery pack for several hours. Then, open the housing and unplug the battery pack.

Store the entire system over the winter at a frost-free place.

## 9. Technical data

### Solar air pump system Solar Air plus

- System voltage: 6 VDC

### Solar module

- Nominal output/power: 3.5 Wp  
- Nominal voltage: 7.8 V  
- Nominal current: 450 mA  
- No-load voltage: 9.6 V  
- Short-circuit current: 490 mA  
- Protection class: IP 44  
- Temperature range: -30°C to +75°C

### Air pump:

- Operating voltage: 6 bis 9 V DC  
- Flow rate: max. 120 l/h  
- Max. air capacity: >450 mmHg  
- Safety class: IP 44  
- Cable length: 3 m

### Battery box:

- Battery pack: NiMh 6 V/ 1200 mAh (spare part No.: 901006)

## 10. Safety Note:

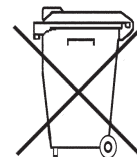
**DANGER for children!** Keep your children away from the swallowable small parts (standpipe and sprinklers) and the packaging material. Danger of suffocation!

**WARNING:** tripping hazard! Lay the connecting cable so that it won't constitute any tripping hazard!

**CAUTION material damages!** If you set up the solar module without module retainer, please pay attention to adequate stability! The solar module may be damaged by toppling over or impacts of foreign bodies.

### Battery take-back

- Batteries must not be discarded into domestic waste.
- The consumer is legally required to return batteries after use, e.g. to public collecting centers or to battery distributors.
- Contaminant-containing batteries are labeled with the sign "crossed-out trashcan" and one of the chemical symbols. Used batteries should be disposed environmentally friendly and should not be discarded into domestic waste. Your dealer is legally required to take back old batteries.



NiMh

### Rechargeable battery notes

- Rechargeable batteries should not be played with by children. Never leave rechargeable batteries lying around; they could be swallowed by children or pets.
- Rechargeable batteries must never be short-circuited, disassembled or thrown into fire. This leads to a danger of explosion!
- Leaking or damaged rechargeable batteries can cause chemical burns when they come into contact with skin. For this reason, please make use of suitable protective gloves.
- Rechargeable batteries should only be replaced by structurally identical rechargeable batteries from the same manufacturer. Normal batteries must not be used since these are not rechargeable.
- Make sure the rechargeable batteries are inserted with the correct polarity.
- For long periods of time of non-use (for example, storage), remove the inserted rechargeable batteries to avoid damages via the leaking rechargeable batteries.

### Manufacturer / Importer

**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)

### 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!