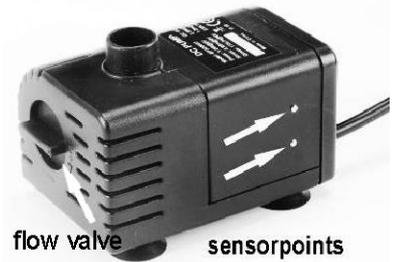


SOLAR PUMP KIT USER'S MANUAL

Design for fountain
Item No.: 02PS012

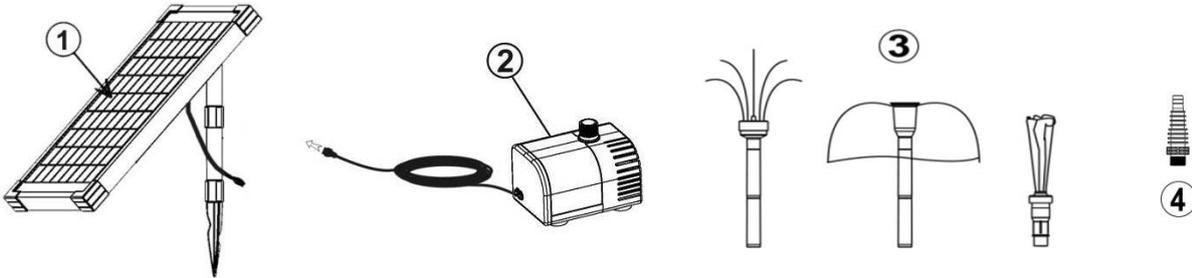
1. OVERVIEW

- 1) The solar pump is designed for outdoor or indoor fountain use, and is powered by a solar panel. In order to make the pump work by solar energy, the solar panel needs to be placed in the sunlight with its solar cells facing the sun as much as possible.
- 2) The performance of the pump depends on the sunlight intensity and the incident angle at which sunlight strikes the panel surface.
- 3) The pump has a build-in function of dry-run protection. The dry-run protection function is supported by two sensor points on one side of the pump housing (referring to the right photo). The pump works if both of the points are submerged in water. If either or both points emerge out of water, the pump stops working.
- 4) The pump flow rate can be adjusted by the flow valve (referring to the right photo).
- 5) The latest DC brushless motor technology is introduced in the pump design and manufacturing, so that the pump has high efficiency and long service life.



flow valve sensorpoints

2. COMPONENTS



1)solar panel with ground spike 2)solar pump 3)nozzle accessories 4)Multilevel hose connector

3. ASSEMBLING

- 1) Unpack all components carefully.
- 2) For the application of pumping a water feature, screw the multilevel hose connector onto the pump outlet and then connect the hose connector to the water inlet of the water feature with a suitable water hose.
- 3) For the application of creating a spraying up fountain, please follow the steps below:
 - a) Mount the nozzle accessories on the top of the pump outlet. Totally, there are three types of nozzle tip provided, including an apple fountain tip, a volcano fountain tip and a special foam effective nozzle tip which can trap a large amount of air into the water to significantly boost the oxygen content in water.
 - b) Fix the pump at the floor of a water body, such as a small shallow pond etc.
 - c) It is better to keep the pump off the pond floor to avoid sucking in the pond waste into the pump, which would easily develop into pump blockage.
 - d) To properly install the volcano fountain head, the extension tubes should be used to lift the fountain head above the water surface, but as low as possible so that the entire length of the water spray can be exposed to maximize the visual effect, as shown in Fig 1.
 - e) To properly install the apple fountain head, the fountain head should be lifted to a position above the water surface far enough to allow forming an ideal apple shaped fountain. To adjust the size of the apple fountain sphere, vary the water discharge gap by pressing or lifting the nozzle top piece, as shown in Fig 2. The larger the discharge gap, the smaller the apple sphere.
 - f) To properly install the foam effective fountain head, please make sure the nozzle top piece is left out of water so that air can be sucked in from the gap underneath it, as shown in Fig 3.
 - g) If all the 4pcs of extension tubes are used and the fountain head still can not reach the right position, please uplift the pump body somehow.

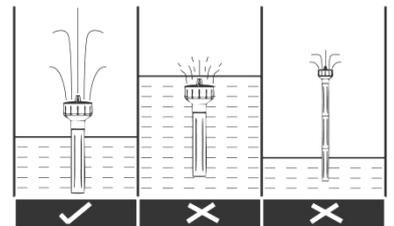


Fig 1

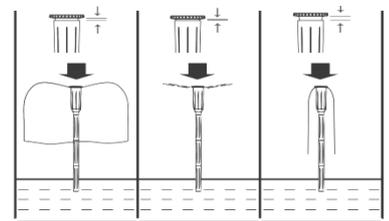


Fig 2

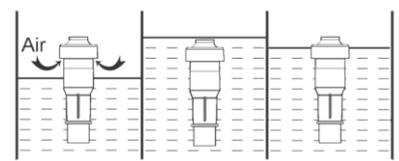
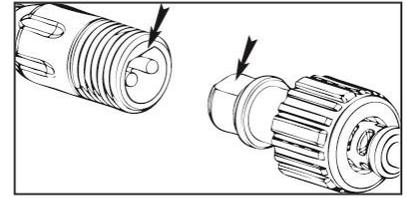


Fig 3

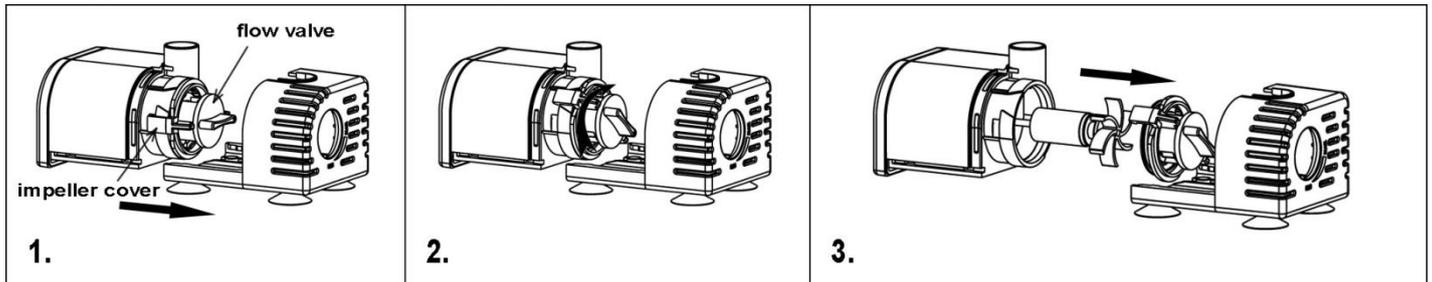
- 4) Electrically connect the pump to the solar panel, and tighten the protection screw.
- 5) Install the solar panel in garden lawn or soft ground by jabbing the spike into the ground. Adjust the orientation of the panel to face it towards the sun.
- 6) Make sure to keep the pump fully submerged in water while the pump is in operation.
- 7) The solar pump is now ready to operate.

4. CAUTIONS

- 1) Any altering of the product itself or changing of the components voids warranty.
- 2) Do not connect the pump to any AC voltage power directly; it's ONLY for DC voltage power.
- 3) All the connectors are protected against reverse polarity as shown in the right figure. Don't insert the plug with reverse polarity by using unnecessary force.
- 4) Operate the pump in water only (never above 40°C), especially keep it away from flammable liquids.
- 5) Do not strike the solar panel.



5. CLEANING AND MAINTENANCE



If the pump starts losing power or stops working after operating for a certain time, please clean the pump following the steps below (See the above figures for demonstration):

- 1) Disconnect the pump.
- 2) Press on the bottom of the filter housing and meanwhile move the filter housing apart from the pump.
- 3) Turn the impeller cover together with flow valve clockwise to the end and then carefully pull both of them apart from the pump.
- 4) Remove the impeller wheel from the pump.
- 5) Wash every part to clean the debris.
- 6) Assemble the pump in reverse sequence.
- 7) Connect the pump.

***Be careful, never drop down the ceramic axis while cleaning the impeller, it breaks easily.**

6. TROUBLE SHOOTING

*Pump does not operate even though the solar panel is in full sunlight.

- 1) No connection to the solar module—check the electrical connection between the pump and the solar module.
- 2) Impeller is blocked—to clean the pump as described in “**CLEANING AND MAINTENANCE**”.
- 3) To make sure the pump is totally submerged in water.

***Pump does operate but there is no water running through the tubes: clean the tube and the filter to make sure both are through completely.**

7. TECHNICAL DATA

Peak Power of Solar Panel	35 W
Operation Voltage	18 V
Maximum Water Lift Height	2.6 M (8.5 FT)
Maximum Flow Rate	1650 LPH (435.9 GPH)
Cable Length	5 M (16.4FT)

