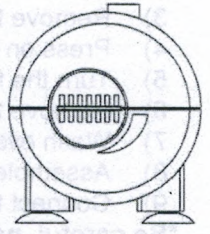


# SOLAR PUMP KIT USER'S MANUAL

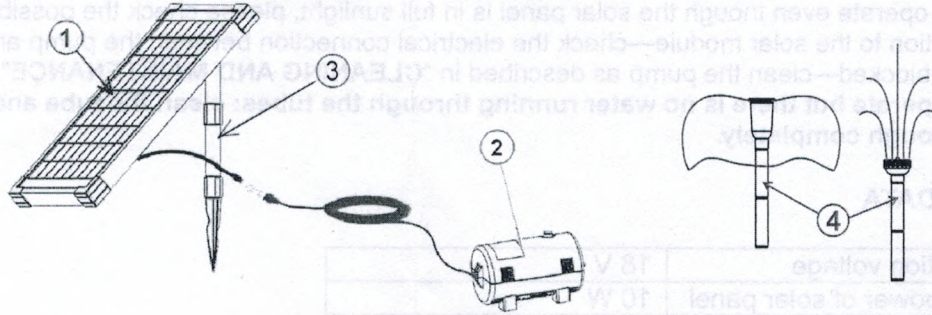
## Design for fountain Model No. SP10-401209A

### 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 flow rate can be adjusted by the flow valve (referring to the right photo).
- 4) 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.



### 2. COMPONENTS



1) Solar panel

2) Solar pump

3) Spike

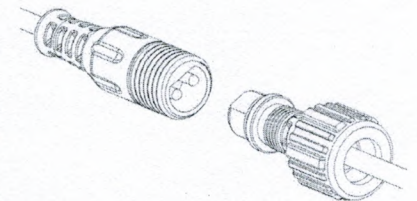
4) Nozzle accessories

### 3. ASSEMBLING

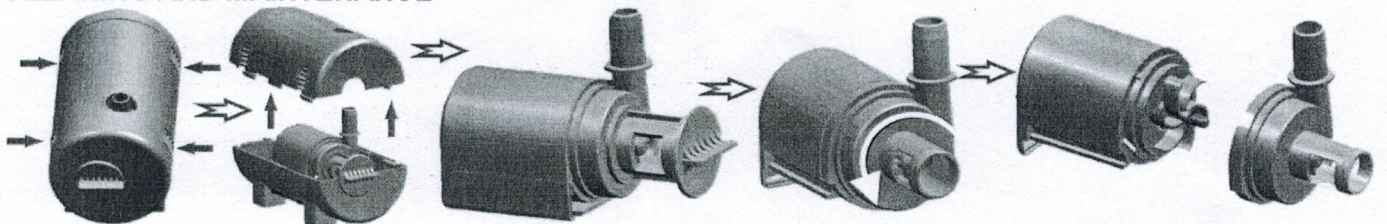
- 1) Unpack all components carefully.
- 2) For the application of producing a waterfall feature, fit the pump outlet to the water inlet of a small garden water decorations.
- 3) For the application of creating a small spraying up fountain, please follow the steps below:
  - a) Fit the nozzle on the top of the pump tube, the nozzle can produce 2 different jet shapes.
  - b) Fix the pump at the base of a basin or bottom of a small shallow pond etc..
  - c) It is best to keep the pump off the pond base to avoid drawing the pond waste into the pump, which will lead to blockage in the pump. Use a brick or similar to elevate the pump.
  - d) To produce excellent fountain effect, please leave the fountain head above the water surface by using the extension tubes. If these 4pcs of extension tubes are all used and the pump head is still immersed in the water, please uplift the pump body somehow.
- 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 the panel towards the sun and then tighten the screw on the back of the panel.
- 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 power supply directly; it's designed ONLY for DC 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.
- 6) Do not let the pump run dry.



### 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) Unlock the filter housing by pressing the four fasteners on the two sides of the filter housing inward and then open the filter housing.
- 3) Remove the pump from the filter housing.
- 4) Press on the bottom board of the pump and meanwhile slide it apart from the pump.
- 5) Turn the front lid of the pump counterclockwise to the end and then carefully pull the lid apart from the pump.
- 6) Remove the impeller wheel from the pump.
- 7) Wash every part to clean the debris.
- 8) Assemble the pump in reverse sequence.
- 9) 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, please check the possible failures listed below.

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

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

### 7. TECHNICAL DATA

Operation voltage	18 V
Peak power of solar panel	10 W
Maximum water lift height	1.7 M (5.6 FT)
Maximum flow rate	610 L/H (161.1 GPH)
Cable length	5 M (16.4 FT)

