



Pumps for the Future

REEFE™ SOLAR PUMP KIT USER MANUAL

Model No.: RSF470

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 power supply to the pump is provided by a solar panel, so that the pump is capable of working in daylight only.
- 3) The pump has the build-in function of dry-run protection. The dry-run protection function is provided by two sensor points on one side of the pump housing (see Figure 1). 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 (refer to Figure 1).
- 5) The performance of the pump depends on the sunlight intensity and the orientation of the solar panel.
- 6) The latest DC brushless motor technology is used in the manufacture of these pumps, so that the pump has high efficiency and long service life.



Figure 1

2. COMPONENTS

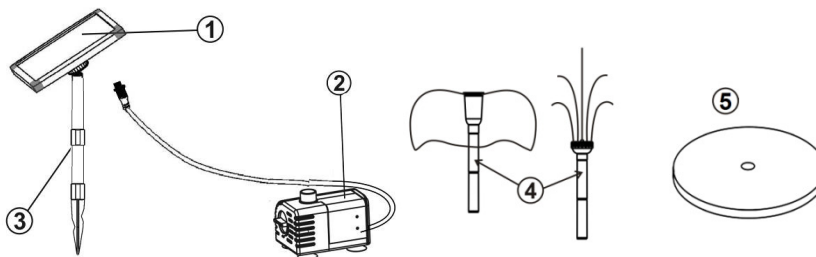


Figure 2

- 1) Solar panel 2) Pump 3) Ground spike 4) Nozzles and extension tubes 5) Floating pad

3. ASSEMBLING

- 1) Unpack all components carefully.
- 2) Connect the solar panel and the pump, as shown in Figure 2 above, and then tighten the connection nut. Install the solar panel in a sunny place on the ground spikes, adjust the angle to face the solar panel toward the sun.
- 3) For a waterfall feature, fit suitable pipework to the pump outlet.
- 4) For the application of creating a fountain spray, please follow the steps below:
 - a) Fit a nozzle and extension tubes to the top of the pump outlet, the nozzle can produce 2 different jet shapes.
 - b) Fit the floating pad, if desired, onto the pump extension tube and then place the floating pad supported pump on the water (refer to Figure 3).
 - c) It is best to keep the pump off the pond base to avoid drawing pond waste into the pump, otherwise it may lead to blockage in the pump.
- 5) Ensure you keep the pump fully underwater when the pump is in operation.

NOTE WELL: The pump performance is variable according to these factors: sunlight hours & strength.

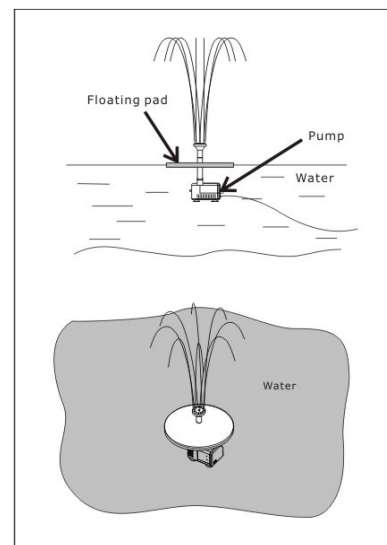


Figure 3

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 Figure 4. Don't insert the plug with reverse polarity by using force.
- 4) Operate the pump in water only (never above 40°C), keep it away from flammable liquids.
- 5) Do not operate it in any area classified as hazardous.
- 6) Do not strike the solar panel. Clean it only with a damp soft cloth.

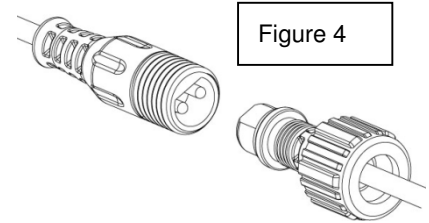


Figure 4

5. CLEANING AND MAINTENANCE

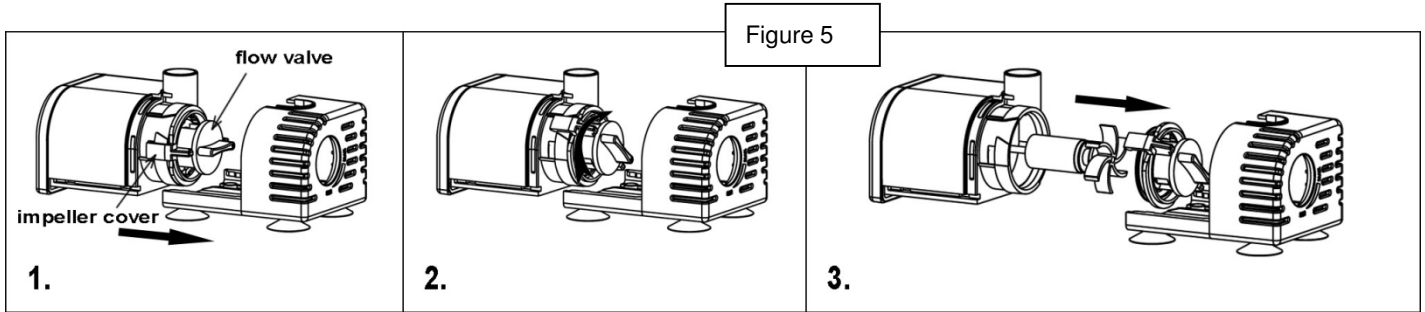


Figure 5

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 figure)

- 1) Disconnect the pump from the solar panel.
- 2) Press on the bottom of the filter housing and slide the filter housing off the pump.
- 3) Turn the impeller cover together with flow valve, clockwise, and then carefully pull the impeller cover together with flow valve apart from the pump.
- 4) Remove the impeller from the pump, taking care not to break the ceramic shaft.
- 5) Wash every part to remove any build-up of sludge.
- 6) In the case of a build-up of lime-scale (calcium deposits) use a mild descaling solution, following the instructions provided for a "shower head"- we recommend RUBBEDIN DESCALE MAGIC – available from most Hardware's and Supermarkets.
- 7) Assemble the pump in reverse sequence.
- 8) Connect the pump to the solar panel.

***Be careful not to drop the ceramic shaft as it is fragile and breaks easily.**

6. TROUBLE SHOOTING

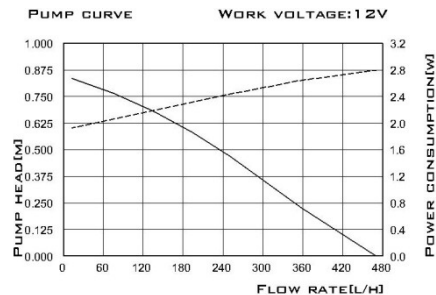
*Pump does not operate even though the solar panel is in full sunlight, please check the possible failures listed below:

- 1) On cloudy or rainy days, the solar panel cannot get sufficient power supply during the daytime.
- 2) No connection—check the electrical connection between the solar panel and the pump.
- 3) Make sure the pump is totally submerged in water.
- 4) Impeller is blocked—clean the pump as described in "**CLEANING AND MAINTENANCE**".

***Pump does operate but there is no water running through the pipes: clean the pipe and the filter to make sure the pipe is not blocked.**

7. TECHNICAL DATA AND PUMP CURVE

Operation voltage	12 V
Peak power of solar panel	5 W
Maximum water lift height	0.9 M (3.0 FT)
Maximum flow rate	470 L/H (124.2 GPH)
Cable length	5 M (16.4 FT)



- **ALL** Performance data is subject to change without notice, and is subject to the Solar Energy (Sunlight) available.



WARNING: Condition of Warranty: This pump MUST NOT be installed in any manner that if it were to leak that it would cause damage or loss to property or persons. It MUST be installed in a well-ventilated and drained area. All warranty is void if this condition is not heeded and no liability can be accepted in the case of damage or loss caused by failing to comply with this condition.

SOLAR PUMPS 24 MONTH LIMITED WARRANTY CONDITIONS

1. Warranty covers only motor failure and manufacturing defects within a 24 month period from the original date of purchase for REEFE™ SOLAR PUMPS purchased and used in mainland Australia.
2. Faults arising due to: - Accidents, misuse, not following these instructions or power surges/spikes/brownouts will not be covered by this warranty
3. Warranty will be void if any tampering or removal of identification labels or electrical cables has occurred, or if pump is moved from the original place of installation or if any non-genuine parts have been fitted.
4. The costs of loss of livestock, damage to property, consequential losses or injury caused by the misuse or abuse or your installation of this appliance is not covered by this warranty. Also, consequential losses caused by faults or failure of this product (which are not reasonably foreseeable by RAMDEX INDUSTRIES to occur) are not covered by this warranty.
5. Faults caused by installation or improper servicing will not be covered. In addition defects stemming from insufficient maintenance are not covered.
6. Warranty is void if this pump is used for pumping anything other than fresh, clean water, or clean saltwater.
7. In the case of pump failure, you must:
 - a) Check the trouble shooting guide first.
 - b) Then call RAMDEX on 1300 726 339 and speak to the Warranty Department who will authorize repair or replacement OR you may return to the original place of purchase for replacement or refund.
8. For any warranty claim to be valid, an original proof of purchase must be supplied, or an acceptable substitute.
9. If an exact replacement is not possible the closest equivalent product will be supplied at Ramdex Industries discretion.
10. This product is guaranteed as fit for the purpose of use as stated on the outer packaging, and NO other use.
11. Condition of Warranty: This pump is not to be used as your sole water supply or for drinking water or for fire-fighting purposes.
12. Condition of Warranty: This pump MUST NOT be installed in any manner that if it were to leak that it would cause damage or loss to property or persons. It MUST be installed in a well-ventilated and drained area. All warranty is void if this condition is not heeded and no liability can be accepted in the case of damage or loss caused by failing to comply with this condition.
13. This product is not intended for use by children or infirm persons. It is your responsibility to ensure, by way of supervision or isolation, that children or other infirm or irresponsible persons are not harmed by this product.
14. All installations must comply with the local Council, Shire, electrical and plumbing regulations in your area.
15. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. If you (the purchaser) do not fall within the meaning of 'consumer' in the Australian Consumer Law some or all of the provisions of the Australian Consumer Law will not apply to you.

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IMPORTANT NOTE: DO NOT use for anything other than clean, fresh or saltwater.

NOTE:

1. Save Power and the Environment refers to the fact that this product does not require mains power to operate. Note that this product has not been independently tested to verify the savings.
2. Performance figures are for the maximum performance in full mid-day summer sunlight and will vary according to the Solar Energy available; the pump may not operate at all when the Sun is obscured by clouds or dust. This Solar Pump does not operate during the night, except for Battery Back-up versions.