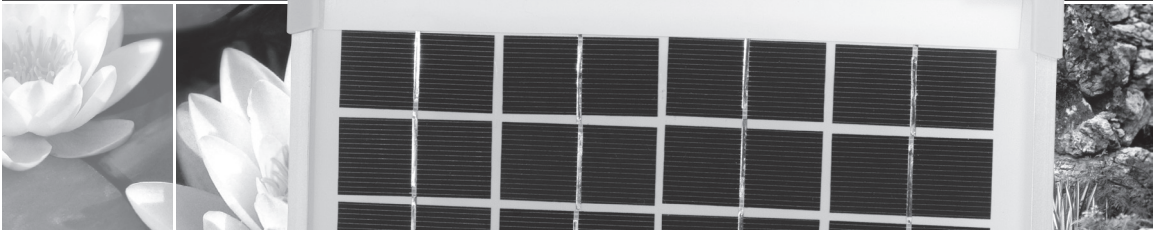


DISCOVER | CREATE | ENJOY



# SOLAR PANEL & SUBMERSIBLE PUMP KIT

INSTRUCTION MANUAL



**AQUATEC**  
EQUIPMENT

**HOTLINE 1300 AQUATEC**

MODEL  
02AS510  
02AS512  
02AS514

DATE  
OCT 2016 v1.0



**CONGRATULATIONS** ON YOUR PURCHASE OF THIS PRODUCT BY **AQUAPRO**, THE ANSWERS FOR YOUR WATERGARDEN MADE EASY.

## TECHNICAL SPECIFICATIONS

Description	AP300SP	AP960SP	API360SP
MAX WATER FLOW IN FULL SUN	310L/H	980L/H	1360L/H
MAX PUMP HEAD IN FULL SUN	0.8m	1.0m	2.1m
MAX PUMP POWER CONSUMPTION	2.5W	4.5W	10.5W
MAX PUMP VOLTAGE	9V	12V	12V-24V
LOW WATER LEVEL CUT OFF	YES	YES	YES
ELECTRICAL CURRENT TYPE	DC	DC	DC
SOLAR PANEL MAX POWER	3.5W	8W	20W
CABLE LENGTH	5m	5m	5m
BUILT IN FLOW ADJUSTER	YES	YES	YES
OUTLET Ø	10mm	12mm Thread	12mm Thread
FOUNTAIN KIT INCLUDED	Yes	Yes	Yes
RECOMMENDED TUBING SIZE ID	8mm	12mm	12mm
RECOMMENDED FOR	Table-Top	Outdoor	Outdoor
PRODUCT ORDER CODE	02AS510	02AS512	02AS514

\* SUBJECT TO VARIATION ACCORDING TO LOAD.

## DESIGN HIGHLIGHTS

The Aquapro DC Solar Pumps have been manufactured with advanced technology to provide you with the best quality Solar pumps for your water feature. Visit our website to view our range of outdoor/underwater lighting and water gardening accessories.

- Advanced Low voltage pump motor design with DC current, brushless motor.
- Eco Friendly – Exceptional low dB noise rating with low mechanical vibration.
- The built in Flow adjuster on the front of the pump can alter the water flow rate of the pump.
- Tool-less Assembly for Easy maintenance. No special tools required.
- Low water level cutout – will automatically cut power to the pump on low water level.
- Easy to install due to the Plug and Play plug design and Extra Low Voltage Electrical system.
- Long life Impellor Design – Ceramic shaft is wear resistant and self-lubricated by water.
- Multiple fountain nozzles included for different effects.
- Energy Efficient – Runs directly off energy from the sun via the solar panel.

# AP300SP / AP960SP / AP1360SP SOLAR PANEL & SUBMERSIBLE PUMP KIT

## BENEFITS

Aquapro DC Solar Pumps are suitable for use in many different applications including water fountains, water features and bird baths. Your pump has a single moving part (an impeller set) enabling easy cleaning and maintenance.

- The Pumps have intelligent circuitry that analyses the water level alongside the pump and will sense a low water state, thus minimising motor burnout, due to electrical heat, through lack of water flow through the motor.
- The motor and electrical components are totally encapsulated in epoxy resin, ensuring safe operation under water.
- The pump has a robust bearing and shaft design so no oil/grease lubrication is required.
- Aquapro DC Solar Pumps are continuous rated therefore are designed not to demand short breaks for cooling purposes.



## IMPORTANT SAFEGUARDS

Please read these instructions and familiarize yourself with the equipment before placing it in service. Correct and safe use of the system requires strict compliance with the safety instructions. For safety reasons persons less than 16 years of age or people that are not familiar with these instructions should not use this equipment.

- Any damage to the equipment or unmerited operation will bring dangers to the surrounding precincts. So if there is any damage of the equipment, it must not to be used.
- For your own safety, disconnect from the power supply before any maintenance of any equipment is attempted on the tank or water body. Always unplug the pump from the Solar Panel when not in use. Never pull the cable to disconnect the plug - Grasp the plug and pull to disconnect.
- Be sure the Pump is submerged completely in the water. The depth should not be greater than 2m.
- Do not operate the pump if the appliance or any components of the system, such as the power cable, have been damaged. Check appliance for defects regularly.
- Do not cut the cable as this will result in voiding your warranty.
- Do not install or store the appliance where it will be exposed to extreme hot or cold temperatures. Do not use in water above 35°C.
- Care should be taken to arrange the power cable so that it cannot be accidentally tripped over or pulled.
- Do not attempt to repair the electrical appliance yourself. Return to an authorised service centre or place of purchase if a fault occurs, (regular maintenance is not considered repair and is required by user





## PRODUCT SPECIFIC SAFEGUARDS

- Do not operate the pump without water at any time, permanent damage may occur.
- Be sure the equipment is submerged completely in the water. Do not use this pump in a dry mounted application.
- The pump is designed to be used in a fresh water bird bath or water-feature. It is not to be used in any other manner or purpose. The pump should only be used in clean water. Do not use the pump in, or with, any chemicals such as a solvent or gasoline.
- Aquapro DC Solar Pumps are cooled by water flowing through the inside of the motor body. If the pump flow becomes restricted it will overheat and could cause permanent damage. The pump needs to be cleaned regularly to prevent the pump becoming blocked, thus causing the pump to overheat and burn out. This is not a warrantable event. The flow rate through the pump needs to be strong enough so that a half of the rated max flow is kept running at all times.
- Do not connect the pump to any AC voltage power supply. It is only to be supplied with DC power within the voltage range stated in the specification table.
- The solar panel is made with glass components. Do not drop strike or crush the solar panel. It will break. The solar module should only be cleaned with soft tissue or glass cleaning solutions.
- It is recommended that we should not to select a pump that is too small for the Job required. If in doubt select a bigger model.

## INSTALLATION

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 direct sunlight with its solar cells facing the sun as much as possible. The performance of the pump depends on the sunlight intensity and the incident angle at which sunlight strikes the panel surface.

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 (referring Diagram). 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.

The motor unit of the pump is encapsulated with epoxy resin and does not need lubrication. Regular inspections, cleaning and maintenance of impellor is necessary to ensure longer life.

In the centre of the impellor you may notice a small whole opening that protrudes through the ceramic shaft from front to back. It is paramount that this portal is kept unblocked at all times. This is a cooling channel for the motor.

The pump flow rate can be adjusted by the flow valve on the front of the pump.



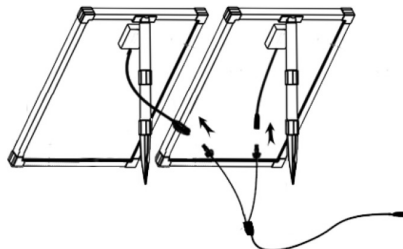
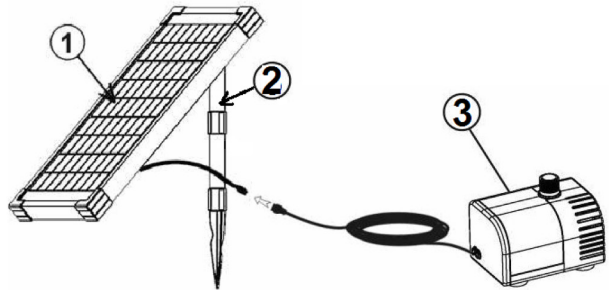
# AP300SP / AP960SP / AP1360SP SOLAR PANEL & SUBMERSIBLE PUMP KIT

## ASSEMBLING THE FOUNTAIN KIT

- For the application of creating a small fountain, fit a selected nozzle and extension tubes on the top of the pump outlet by pushing or screwing (depending on the model). There are different nozzles for different fountain effects. To produce the fountain effect, it is best practice for the fountain head or nozzle to be position 5 - 10cm above the water surface. It is best to keep the pump off the waterfeature base to avoid drawing the waste and debris into the pump, otherwise it may lead to a blockage in the pump. A household brick is sometimes used for this purpose.
- If you choose to connect tubing to the pump instead of the fountain kit, we recommend using one of the riser stems from the fountain kit to push inside 13mm hose. You may need to utilize hot water to soften the tube and expand the diameter to fit over the riser end. Remember to use Stainless Steel hose clamps to fasten the hose on to the Hosetail. This is to ensure that the pipe does not blow off at a later time or leak at this point in the plumbing system. Direct the hose in your desired direction.
- Place the pump in desired location. Ensure the pump is on a stable surface that is free of sludge, sand and other debris. Do not place the pump directly on the water feature floor or in mud. It is recommended to place the pump on a raised surface.
- Electrically connect the pump to the solar panel, and tighten the protection nut.

## ASSEMBLING THE SOLAR PANEL

- For the larger models where two panels have to be joined together, the 20W/18V solar panel is divided into two 10W/18V panels, connect as per diagram.
- 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 to secure.
- Make sure to keep the pump fully submerged in water while the pump is in operation.
- The solar pump should now operate.
- For the larger models where two panels have to be joined together, the 20W/18V solar panel is divided into two 10W/18V panels, connect as per diagram.



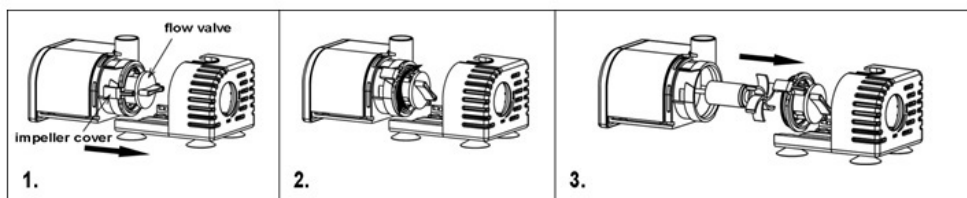


## CLEANING INSTRUCTIONS

Begin by ensuring that the power supply is disconnected from the solar panel before attempting any maintenance or adjustment of the unit. Remove the unit from the water. The filters and sponges will clog up over time.

Please clean regularly (at least once a month) to ensure strong water flow. Failure to maintain the unit will result in a burnt out motor and other damage. All Aquapro DC Solar Pumps are water cooled, if pump becomes restricted, or blocked, it will overheat and could cause permanent damage. When the flow starts to be reduced, check and clean if necessary.

The motor unit of the pump is encapsulated with epoxy resin and does not need lubrication. Regular inspections, cleaning and maintenance of impellor is necessary to ensure longer life



1. Disconnect the tubing/fountain kit from off the pump.
2. Press on the bottom of the filter housing, and meanwhile move the filter housing apart from the pump.
3. Now remove the internal filter sponge and clean.
4. Turn the impeller cover together with flow valve clockwise to the end and then carefully pull the impeller cover, together with flow valve, apart from the pump.
5. Lift out the impellor assembly. (Take care not to break ceramic shaft.) Clean the impellor with clean water and a suitable brush taking note to remove fine sediment on and around the back end of the impellor. Replace the impellor if necessary.
6. Clean the housing and pump with a suitable brush, taking care to clean off sludge, algae and debris.
7. Assemble the pump in reverse sequence.
8. On some models re-insert the internal sponge back into the filter cage and reattach to the pump. On other models re-attach the front filter screen.
9. Reconnect the pump as before.

*\*Be careful not to drop the ceramic shaft while cleaning the impeller, it breaks easily.*

### IMPORTANT NOTES:

It is important to ensure that this is carried out regularly as the cooling path inside the motor will become clogged. If the impellor assembly becomes worn or damaged it should be replaced (available from your dealer or special orders). Failure to do so may cause serious damage to pump. Inspect for signs for wear and tear. The impellor set is a wearing consumable part.



# AP300SP / AP960SP / AP1360SP SOLAR PANEL & SUBMERSIBLE PUMP KIT

## EXPLODED VIEW

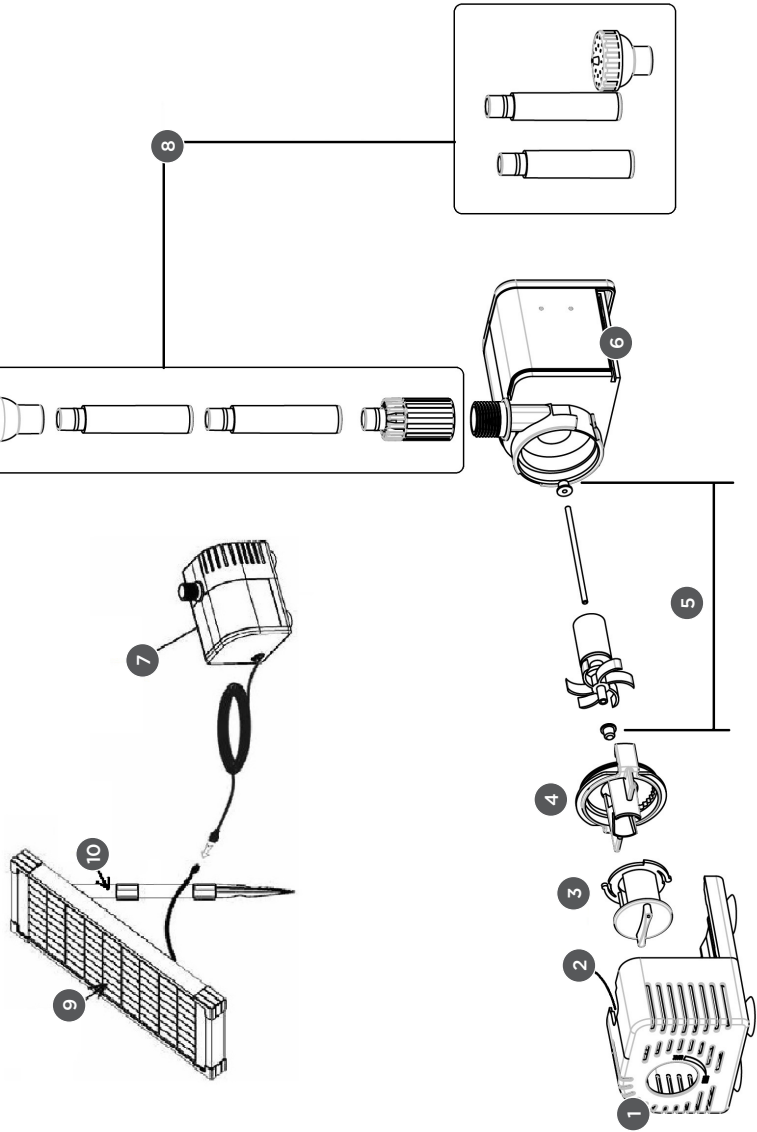


### IMPORTANT

These accessories and attachments are recommended for use with your AQUATEC product. The use of other accessories or attachments might present a risk of injury to persons. Only use the accessory or attachment for its stated purpose.

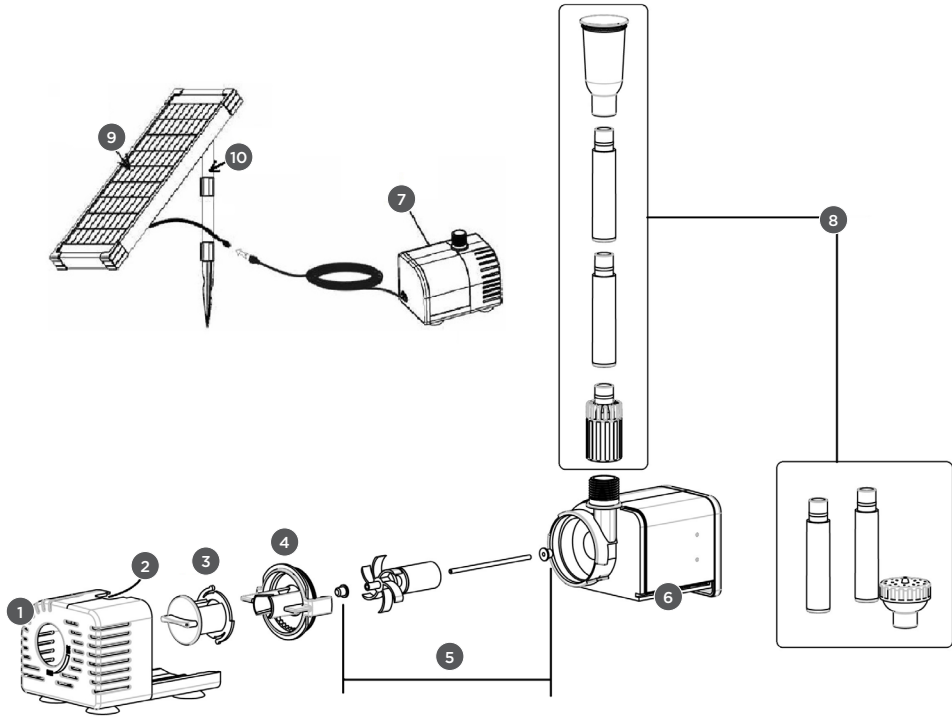
- 1 Filter Housing
- 2 Internal filter sponge - (Not visible in exploded view.)
- 3 Flow Adjuster - Removable
- 4 Impellor Cover
- 5 Impellor and Shaft Assembly

- 6 Motor Body only
- 7 DC Solar Pump Only - (Part No. 1,2,3,4,5,6)
- 8 Fountain kit - inc. Threaded Adaptor, Riser, & Fountain Nozzles
- 9 Solar Panel Only
- 10 Solar Panel Mounting Kit





**SPARE PARTS** (NOTE: THESE ARE THE MOST USED)



Part No.	Description	AP300SP	AP960SP	AP1360SP
1	Filter Housing	Kit 12AS060	Kit 12AS061	
2	Internal filter sponge - (Not visible in exploded view)			
3	Flow Adjuster - Removable			
4	Impellor Cover			
5	Impellor and Shaft Assembly	12AS064	12AS065	
6	Motor Body only	Available on Request		
7	DC Solar Pump Only - (Part No. 1,2,3,4,5,6.)	12AS073	12AS074	
8	Solar Panel Only	12AS067	12AS068	12AS069
9	Solar Panel Mounting Kit	Kit 12AS070	Kit 12AS071	
10	Fountain kit - inc. Threaded Adaptor, Riser, & Fountain Nozzles			



# AP300SP / AP960SP / AP1360SP SOLAR PANEL & SUBMERSIBLE PUMP KIT

## TROUBLESHOOTING

Problem	Reason	Solution
Water Pump Not Working	No Power	Check that the plug is connected and turned on
	Sponges and filter media blocked with sludge	Clean the sponges and filters
	Impellor is blocked with sludge or limescale	Clean the Impellor as per the instructions
	Running without sufficient water	Submerge the equipment underwater then plug in. Refill if necessary.
	Blocked Impellor chamber or ceramic shaft is broken	Clean the Impellor. Check for ware. Replace if necessary.
Water Pump is noisy	Blockage in pump	Clear the blockage
	Impellor & Shaft worn out	Replace Impellor & Shaft
	Impellor broken	Replace Impellor
	Flow adjuster set to minimum	Open the flow adjuster and allow water to flow
	Unit inlet is blocked or the water pump outlet is blocked	Clear all blockages
	The height to which you are pumping is too high for the given model of pump.	Select a bigger model of pump





## WARRANTY

### **IMPORTANT: IF USED IN MARINE OR SALTWATER, DUE TO THE HARSH CONDITIONS THE WARRANTY IS VOID.**

- This product comes with a warranty against defects and motor failure (Warranty). The benefits provided in this Warranty are in addition to other rights and remedies available to you under the Australia Consumer Law. The Warranty is provided to the original purchaser of the product on the following terms:
- The Warranty is given by Chemkay Pty Ltd trading as Aquatec Equipment: PO Box 2087, Seville Grove, WA 6112. Tel 1300 552 202 or email [sales@aquatecequipment.com](mailto:sales@aquatecequipment.com).
- To make a claim under the Warranty you must return the faulty product to the place of purchase with a valid receipt or proof of purchase.
- **A Warranty claim must be made within 1 year of the date of purchase.**
- If your claim complies with the above terms and the product is not an exhaustible Item and no voiding events have occurred, we will (at our sole discretion):
  - repair the product, if possible; or
  - provide a replacement product; or
  - if a replacement product is not available, provide a refund for the purchase price paid.
- You will bear the cost associated with claiming under the Warranty such as the cost of transportation and delivery of the product to and from the place of purchase.
- The product contains a complete Impellor Set, O Ring & UV Globe. These items are exhaustible (Exhaustible Items) and are not covered under the Warranty.
- The Warranty will be void if any of the following events occur, as determined by us, at our sole discretion (Voiding Events):
  - any tampering/removal of warranty/identification labels or electrical components is evident;
  - the defect has arisen due to: an accident, incorrect or inadequate installation, misuse or abuse of the product (including improper maintenance and service), excessive wear and tear, not following manufacturer's guidelines/ instructions, or the product has been used in a manner contrary to the purpose or suitability of the product;
  - the product has been modified without our authority;
  - the defect is caused by power surges/spikes brownouts.
- Loss of livestock, damage to property or personal injury caused by the improper use or abuse of the product will not be covered and the manufacturer excludes all liability for such events, to the extent permitted by law.
- In addition to the Warranty set out above, 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.

**Please consult your retailer for quality original AQUAPRO replacement parts.  
Visit [www.aquatecequipment.com](http://www.aquatecequipment.com) for your nearest stockists.**

**E.&O.E.**





**AQUATEC**  
EQUIPMENT

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