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SUBMERSIBLE FILTRATION & WATERFALL PUMP

INSTRUCTION MANUAL



AQUATEC
EQUIPMENT

DATE
SEPT 2016 v1.0

HOTLINE 1300 AQUATEC

MODEL
02AD940
02AD960



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

TECHNICAL SPECIFICATIONS

| Description | AP3100DW | AP6100DW |
|--------------------------------------------------------------|---------------------|-----------|
| MAXIMUM WATER FLOW(L/H) | 3100 | 6000 |
| MAXIMUM HEAD (m) | 2.5 | 4.0 |
| POWER CONSUMPTION* (W) | 25W | 55W |
| VOLTS (V) | 240 | 240 |
| IP RATING | IPX8 | IPX8 |
| FREQUENCY (Hz) AC | 50 | 50 |
| CABLE LENGTH (m) | 10 | 10 |
| INLET Ø BSP THREAD (inch) | 1 (M) | 1 (M) |
| OUTLET Ø BSP THREAD (inch) | 1 (M) | 1 (M) |
| BALL JOINT OUTLET & STEPPED HOSETAIL - 40mm / 32mm / 25mm | Yes | Yes |
| RECOMMENDED TUBING SIZE (mm) ID | 25mm | 25mm |
| RECOMMENDED FOR PRESSURE FILTER | AP2100UV / AP5000UV | AP10000UV |
| PRODUCT ORDER CODE | 02AD940 | 02AD960 |

* SUBJECT TO VARIATION ACCORDING TO LOAD.

DESIGN HIGHLIGHTS

The AQUAPRO Filtration & Waterfall Pumps have been manufactured with advanced technology to provide you with the best quality pumps for your pond or water feature. Visit our website to view our range of pond filtration, outdoor/ underwater lighting, water treatments and general accessories.

- **Variable Frequency Motor Technology** - extra high speed rotations of impeller.
- **Open Vane Impellor** - handles large particles size up to 6mm soft sediment.
- **Long life Impellor** - Ceramic shaft is wear resistant and self-lubricated by water
- **Energy Efficient** - Exceptional low power consumption to high water flow conversion.
- **Eco Friendly** - Exceptional low dB noise rating with low mechanical vibration.
- **Tool-less Assembly** - Easy maintenance. No special tools required.
- **Soft Start** - Rotor starts at low speed and increases over a short period of time. This reduces sudden recoil kick back on start up.

AP3100DW / AP6100DW FILTRATION & WATERFALL PUMP

BENEFITS

AQUAPRO Filtration & Waterfall Pumps are suitable for use in many different applications including waterfalls and Biological Filter systems. Your pump has a single moving part (an impeller set) enabling easy cleaning and maintenance.

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- The Pumps have intelligent circuitry that analyses the speed and torque of the motor. It will increase and decrease the energy usage to maximise efficiency. The soft start nature of the system helps to avoid sudden pressure surges causing pipes to blow off. The intelligent system will change the motor speed to maximise the flow of water in the given circumstances. If the Impeller gets jammed or stops, the circuitry will sense the state and cut the power automatically. This procedure will repeat 3 times. If the rotor is still jammed, it will activate a prolonged low state, till the pump is turned off, and adequate maintenance is carried out. 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 Filtration & Waterfall Pumps are continuous rated therefore are designed to be heavy-duty and to operate 24/7.



IMPORTANT SAFEGUARDS

Please read the operating 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. The equipment should be placed out of reach of children.
- 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 power supply when not in use
- Never pull the cable to disconnect the plug from the power supply - Grasp the plug and pull to disconnect. If required, have a qualified electrician install a weatherproof power supply point near to the pond or water-feature (within the cable length of the appliance).
- Be sure the equipment 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.
- Always use a properly grounded power supply that is connected to an RCD with a rated residual operating current not exceeding 30mA. As per AS/NZS 3350.2.41:1997
- To avoid an electric shock, do not attach the plug to the power supply socket with wet hands. On installation, the drip loop method should be used to prevent water from traveling down the cable and onto the plug or power supply. If the plug does get wet, do not unplug the cable. Immediately disconnect the circuit breaker that supplies power to the power supply point. Then unplug and examine the plug, and power supply point, for presence of water. If the power point has become wet, you should consult an electrician before using the power point again.
- 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 authorized 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. The depth should not be greater than 2m. Do not use this pump in a dry mounted application.
- The pump is designed to be used in a Fresh water Garden pond. 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 Filtration & Waterfall 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. Large tubing size is strongly recommended to deliver adequate water flow to cool the pump. 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. It is strongly recommended not to select a pump that is too small for the Job required. 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.

INSTALLATION - FILTER & WATERFALL PLUMBING GUIDE

When used to supply water to a Biological filter, cascade, waterfall, ect; where a pipe is needed to be used, use the hose tails supplied in the package. For best results, use the tubing size recommended in the table under specifications at the beginning of this manual. Bigger tube size is always better depending on the pump flow rate, select the hose tail required for your tubing size and evaluate which step on the hosetail will be used. If you are using 32mm hose and you are connecting it to the 40mm\32mm\25mm hosetail supplied, remember to saw off the smaller size connection (I.E.: 25mm step). Otherwise it will create a unnecessary restriction in the plumbing system.

A omni-directional ball joint is provided for your convenience when used under water. Select the hosetail. Locate the O'ring washer and the locking nut of the hosetail. Slide the O'ring, then the locking nut over the hosetail, connect the threaded locking nut to the hosetail and screw in firmly. Now connect the addaptor to the pump out let.

Now connect the tubing to the hose tail. 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. Connect tubing to the outlet.

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 pond floor or in mud. It is recommended to place the pump on a raised surface.

CLEANING

Begin by ensuring that the mains power supply is disconnected before attempting any maintenance or adjustment of the unit or the water body. Remove the unit from the water. If your unit is connected to a filter, 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 Filtration & Waterfall 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. 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.

Start by disconnecting the tubing from the pump. Then unclip top section of the filter cage from off the bottom using the four lid clips in the direction as indicated by the arrow, and then lift it off.



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1. Clean the housing and pump with a suitable brush, taking care to clean off sludge, algae and debris.
2. To maintain the impellor of the pump, turn the Impellor Cover in an anti-clockwise direction as indicated by the arrow, to the stop position. Then separate the impellor cover from the pump motor body.
3. Lift out the impellor assembly. (Take care not to break ceramic shaft.) The black disc behind the blades is part of the entire impellor assembly. 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 including the small hole through the ceramic shaft if it has one. Replace the impellor if necessary.
4. On some models, 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.
5. Ensure to replace the O'ring in the correct place shown in the picture when reassembling the unit.

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.

Once the cleaning and inspection process is completed, reassemble in the reverse manner. Reinstall the impellor into the motor body. To place the Impellor O'ring around the black disc successfully, firmly hold the disc with one hand, and using the other hand stretch the O'ring over the disc, positioning it carefully into the groove. Pay attention not to allow the O'ring (4) to roll forward, in-between the black disc and the motor body. With the impellor in the correct position, carefully place the impellor cover back on, and then rotate clockwise back into position.

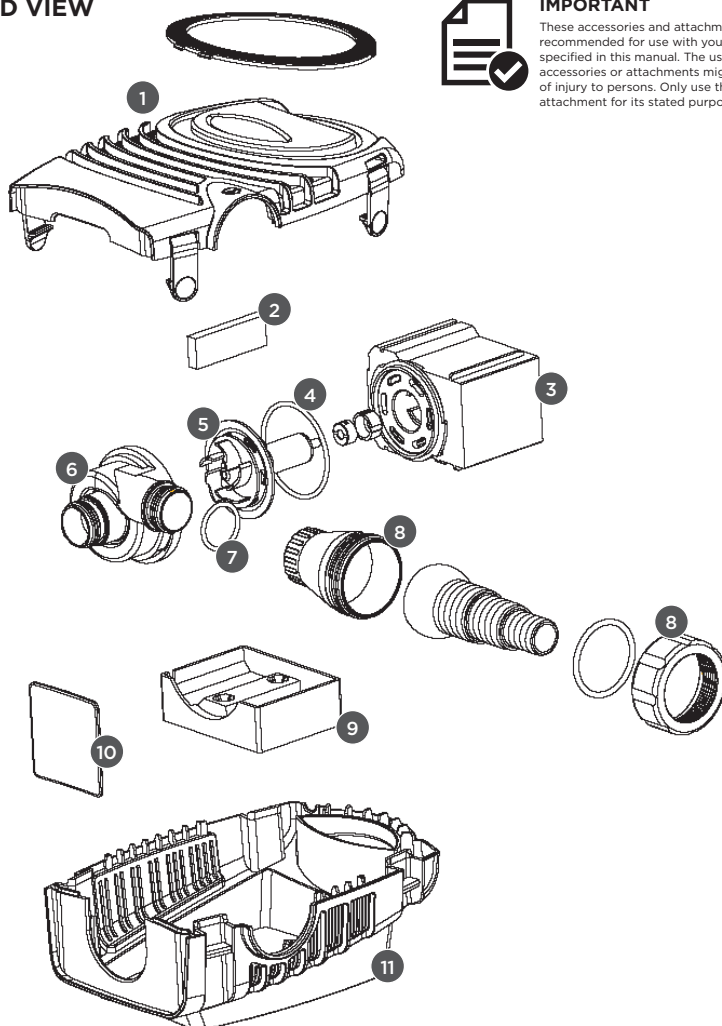
For instructions for cleaning of optional Bio-filters check the website for further information. You can help boost the biological function of your filtration with a bacterial additive, available from your local stockist.



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EXPLODED VIEW



IMPORTANT

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

- 1 Slotted Pump Lid with Clips and Ring
- 2 Lid to Motor Rubber Spacer
- 3 Motor Body with Ceramic Bearings
- 4 Impellor Cover O'Ring
- 5 Impellor Assembly
- 6 Impellor Cover

- 7 Inlet & Outlet O'Ring Set
- 8 Omni-directional hoesail with locking Nut, Threaded Adaptor and O'Ring
- 9 Motor body Mounting Block
- 10 Cage Inlet Cover
- 11 Slotted Pump Base

AP3100DW / AP6100DW FILTRATION & WATERFALL PUMP

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 |
| | Water valve closed on the outlet | Open the valve and allow water to flow |
| | Unit inlet is blocked or the water pump inlet is blocked | Clear all blockages |

SPARE PARTS (NOTE: THESE ARE THE MOST USED)

| Description | AP3100DW | AP6100DW |
|-------------------------------------------------------------------------|----------|----------|
| Slotted Pump Lid with Clips and Ring | 12AD060 | |
| Lid to Motor Rubber Spacer | 12AD061 | 12AD062 |
| Impellor Cover O'Ring | 12AD066 | |
| Impellor Assembly | 12AD067 | 12AD068 |
| Impellor Cover | 12AD070 | 12AD071 |
| Inlet & Outlet O'Ring Set | 12AD073 | |
| Omni-directional hosetail with locking Nut, threaded Adaptor and O'Ring | 12AD074 | |
| Cage Inlet Cover | 12AD078 | |
| Slotted Pump Base | 12AD079 | |



AP3100DW / AP6100DW FILTRATION & WATERFALL PUMP

LIMITED 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.
- 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 2 years 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 Impeller 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 for your nearest stockists.**

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