



UNIVERSAL

Hydroponic & Aquaponic Water Pump

FOR PUMP MODELS

150 - 300 • 300 - 500 • 500 - 700 • 700 - 1000



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FOR INDOOR AND OUTDOOR USE IMPORTANT SAFETY INSTRUCTIONS

WARNING - TO REDUCE THE RISK OF ELECTRIC SHOCK, USE ONLY ON PORTABLE SELF-CONTAINED FOUNTAINS NO LARGER THAN 5 FEET IN ANY DIMENSION.

WARNING - RISK OF ELECTRIC SHOCK - THIS PUMP IS SUPPLIED WITH A GROUNDING CONDUCTOR AND GROUNDING TYPE ATTACHMENT PLUG. TO REDUCE THE RISK OF ELECTRIC SHOCK, BE CERTAIN THAT IT IS CONNECTED ONLY TO PROPERLY GROUNDED, GROUNDING-TYPE RECEPTACLE.

WARNING - TO REDUCE THE RISK OF ELECTRIC SHOCK, INSTALL ONLY ON A CIRCUIT PROTECTED BY A GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI).

GROUNDING INSTRUCTION

WARNING - RISK OF ELECTRIC SHOCK - THIS PUMP IS SUPPLIED WITH A GROUNDING CONDUCTOR AND GROUNDING-TYPE ATTACHMENT PLUG. TO REDUCE THE RISK OF ELECTRIC SHOCK, BE CERTAIN THAT IT IS CONNECTED ONLY TO A PROPERLY GROUNDED, GROUNDING-TYPE RECEPTACLE.

WARNING - TO GUARD AGAINST INJURY, BASIC SAFETY PRECAUTIONS SHOULD BE OBSERVED, INCLUDING THE FOLLOWING:

- A) **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
- B) **DANGER** - TO AVOID POSSIBLE ELECTRIC SHOCK, SPECIAL CARE SHOULD BE TAKEN SINCE WATER IS EMPLOYED AND INTENDED FOR FOUNTAINS, WATERFALLS, AND PONDS, WHICH ARE COMPLETELY SUBMERSED FOR PUMPING WATER AND ARE SUITABLE FOR OUTDOOR USE. FOR EACH OF THE FOLLOWING SITUATIONS, DO NOT ATTEMPT REPAIRS BY YOURSELF; RETURN THE APPLIANCE TO AN AUTHORIZED SERVICE FACILITY FOR SERVICE OR DISCARD THE APPLIANCE. IF THE APPLIANCE SHOWS ANY SIGN OF ABNORMAL WATER LEAKAGE, IMMEDIATELY UNPLUG IT FROM THE POWER SOURCE. DO NOT OPERATE ANY APPLIANCE IF IT HAS DAMAGED CORD OR PLUG, OR IF IT IS MALFUNCTIONING OR HAS BEEN DROPPED OR DAMAGED IN ANY MANNER.
- C) CLOSE SUPERVISION IS NECESSARY WHEN ANY APPLIANCE IS USED BY OR NEAR CHILDREN.
- D) TO AVOID INJURY, DO NOT CONTACT MOVING PARTS DIRECTLY.
- E) CAREFULLY EXAMINE THE PUMP AFTER INSTALLATION, IT SHOULD NOT BE ENERGIZED IF THERE IS WATER ON PARTS NOT INTENDED TO BE WET.
- F) ALWAYS UNPLUG AN APPLIANCE FROM AN OUTLET WHEN NOT IN USE, BEFORE PUTTING ON OR TAKING OFF PARTS, AND BEFORE CLEANING. NEVER YANK CORD TO PULL PLUG FROM OUTLET. GRASP THE PLUG AND PULL TO DISCONNECT.
- G) DO NOT USE AN APPLIANCE FOR OTHER THAN INTENDED USE.
- H) READ AND OBSERVE ALL THE IMPORTANT NOTICES ON THE APPLIANCE.
- I) DO NOT PUMP FLAMMABILITY OR HEATED LIQUIDS.
- J) **DO NOT RUN DRY.**
- K) DO NOT CONNECT TO ANY VOLTAGE OTHER THAN SHOWN ON THE PUMP.
- L) ENSURE THAT THE POWER SUPPLY CORD LOOPS BELOW THE ELECTRICAL OUTLET TO FORM A "DRIP LOOP". THIS WILL PREVENT WATER FROM RUNNING DOWN THE CORD INTO THE ELECTRICAL OUTLET.

SUBMERSIBLE PUMP

WARNING

- ACCEPTABLE FOR HOUSEHOLD INDOOR AND OUTDOOR USE.
- THIS PUMP HAS BEEN EVALUATED FOR USE WITH WATER ONLY.
- USE UNDER WATER ONLY, DO NOT RUN DRY.

WARNING

- TO REDUCE RISK OF ELECTRIC SHOCK, PULL PLUG BEFORE SERVICING THIS PUMP.
- RISK OF ELECTRIC SHOCK – THIS PUMP HAS NOT BEEN INVESTIGATED FOR USE IN SWIMMING POOL OR MARINE AREAS.
- TO REDUCE RISK OF ELECTRIC SHOCK, CONNECT ONLY TO A PROPERLY GROUNDED, GROUNDING-TYPE RECEPTACLE.
- TO REDUCE THE RISK OF ELECTRIC SHOCK, INSTALL ONLY ON A CIRCUIT PROTECTED BY A GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI)

WARNING

- TO REDUCE THE RISK OF ELECTRIC SHOCK, USE ONLY ON PORTABLE SELF-CONTAINED FOUNTAINS.
- THIS PUMP IS SUPPLIED WITH A GROUNDING CONDUCTOR AND GROUNDING-TYPE ATTACHMENT PLUG. TO REDUCE THE RISK OF ELECTRIC SHOCK, BE CERTAIN THAT IT IS CONNECTED ONLY TO A PROPERLY GROUNDED, GROUNDING-TYPE RECEPTACLE.

WARNING

- 1) THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.
- 2) PLEASE NOTE THAT CHANGES OR MODIFICATIONS OF THIS PRODUCT IS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE AND COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.
- 3) **NOTE:** THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS B DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE IN A RESIDENTIAL INSTALLATION. THIS EQUIPMENT GENERATES, USES AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. HOWEVER, THERE IS NO GUARANTEE THAT INTERFERENCE WILL NOT OCCUR IN A PARTICULAR INSTALLATION.

IF THIS EQUIPMENT DOES CAUSE HARMFUL INTERFERENCE TO RADIO OR TELEVISION RECEPTION, WHICH CAN BE DETERMINED BY TURNING THE EQUIPMENT OFF AND ON, THE USER IS ENCOURAGED TO TRY TO CORRECT THE INTERFERENCE BY ONE OR MORE OF THE FOLLOWING MEASURES:

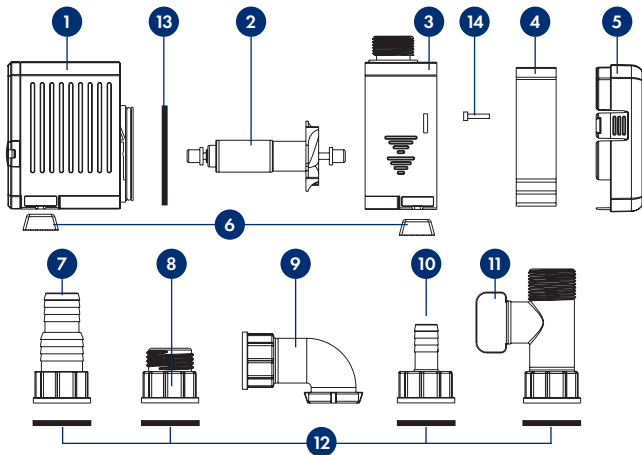
- REORIENT OR RELOCATE THE RECEIVING ANTENNA.
- INCREASE THE SEPARATION BETWEEN THE EQUIPMENT AND RECEIVER.
- CONNECT THE EQUIPMENT INTO AN OUTLET ON A CIRCUIT DIFFERENT FROM THAT TO WHICH THE RECEIVER IS CONNECTED.
- CONSULT THE DEALER OR AN EXPERIENCED RADIO/TV TECHNICIAN FOR HELP.

SAVE THESE INSTRUCTIONS

CONSUMER ADVICE CONTACT DETAILS

Pennington, 1280 Atlanta Highway, Madison, GA 30650
Tel: 1-800-285-7333 www.penningtonaquagarden.com

GETTING TO KNOW YOUR WATER PUMP



No.	Part Description	Order Code
1	Motor	N/A
2	Impeller complete	300: 1058384 500: 1058391 700: 1058407 1000: 1058414
3	Impeller cover with pump outlet	N/A
4	Optional Pre-filter foam (pack of four)	300: 1058339 500: 1058346 700: 1058353 1000: 1058360
5	Pre-filter intake cage	N/A
6	Rubber feet x 4	Factory Fitted *see below

No.	Part Description	Order Code
7	Stepped hose tail x 2 150-300, 300-500 & 500-700: ¾" and 1" 700-1000: ¾", 1" and 1 ¼"	*see below
8	GHT adaptor (not included in 150-300 model)	*see below
9	Low water inlet adaptor	*see below
10	½" hose tail x 2 (not included in 700-1000 model)	*see below
11	Flow control valve	*see below
12	Outlet O-ring x 3	*see below
13	Impeller cover O-ring	(see No. 2)
14	Impeller cover locking screw	x1 Spare (Inline use only) x1 Factory Fitted

* Parts 6, 7, 8, 9, 10, 11 & 12 are supplied as one part with the following order code:
300, 500, 700: 1058308 / 1000: 1058315

GETTING TO KNOW YOUR WATER PUMP

PUMP PERFORMANCE FLOW RATE:

10 ft				4
8 ft			66	198
6 ft		172	211	449
4 ft	145	317	383	674
2 ft	217	370	502	832
0 ft	300	500	700	1000
Model	150-300	300-500	500-700	700-1000

TECHNICAL SPECIFICATIONS:

Model	150-300	300-500	500-700	700-1000
Cable length	6'	6'	9'	12'
Voltage/ frequency	120v/60Hz	120v/60Hz	120v/60Hz	120v/60Hz
Watts	17w	30w	35w	96w
Maximum Flow	300 g/h	500 g/h	700 g/h	1000 g/h
Maximum Lift	5'7"	7'6"	9'2"	10'2"
Pump dimensions	4½" x 2¼" x 3¾"	4¾" x 2½" x 4¼"	5¾" x 3" x 4¾"	6½" x 3½" x 5¼"

INSTALLATION

ELECTRICAL SAFETY INFORMATION:

Caution: Household indoor and outdoor use.



WARNING - Risk of Electric Shock. Mount the unit at a height greater than 1 foot from the ground surface. Install only to covered Class A GFCI receptacle that has a weatherproof enclosure with the attachment plug cap inserted or removed.

The power supply must meet the specification of the product.

PUMP

The electric cord is permanently connected and sealed in the motor body. If the supply cord is damaged the pump must not be used. Do not use the supply cord to lift the pump as this may cause damage.



WARNING - All models must be used with a GFCI. To reduce the risk of electric shock, connect only to a properly grounded, grounding-type receptacle. To reduce the risk of electric shock, install only on a circuit protected by a ground fault circuit interrupter (GFCI).

Do not remove the grounding pin from the power cord plug. Attention has been drawn to the fact that special rules may exist concerning the installation of your pump. These pumps must not be used in swimming pools, or areas where people are in contact with the water. Always disconnect the power source whilst the equipment is being installed, repaired, maintained or handled.



WARNING - The pump is provided with a thermal cut out that temporarily switches off the pump in case of overheating and the pump may automatically restart.

WARNING - Never run the pump out of water for prolonged periods as this may cause irreparable damage.

WARNING - Risk of electric shock - This has not been investigated for use in swimming pools or marine areas.

INSTALLATION

GROUNDING INSTRUCTIONS – This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for electric current. The appliance is equipped with a cord having an appliance grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is installed and grounded in accordance with all local codes and ordinances.



WARNING - Improper connection of the appliance-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service representative if you are in doubt whether the appliance is properly grounded. Do not modify the plug provided with the appliance: if it will not fit the outlet, have a proper outlet installed by a qualified technician.

LOCATING YOUR WATER PUMP

The pump should be located on a firm and level base. If used in the reservoir, there should be a water depth of at least 4" but no more than 7'2".

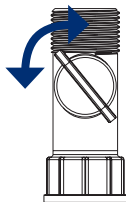


Never allow the pump to run without water as this may cause irreparable damage.

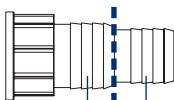
ADJUSTING THE FLOW CONTROL

Turn the valve counter-clockwise to decrease flow.

Turn clockwise to increase flow



Cut off & remove unwanted hose tail

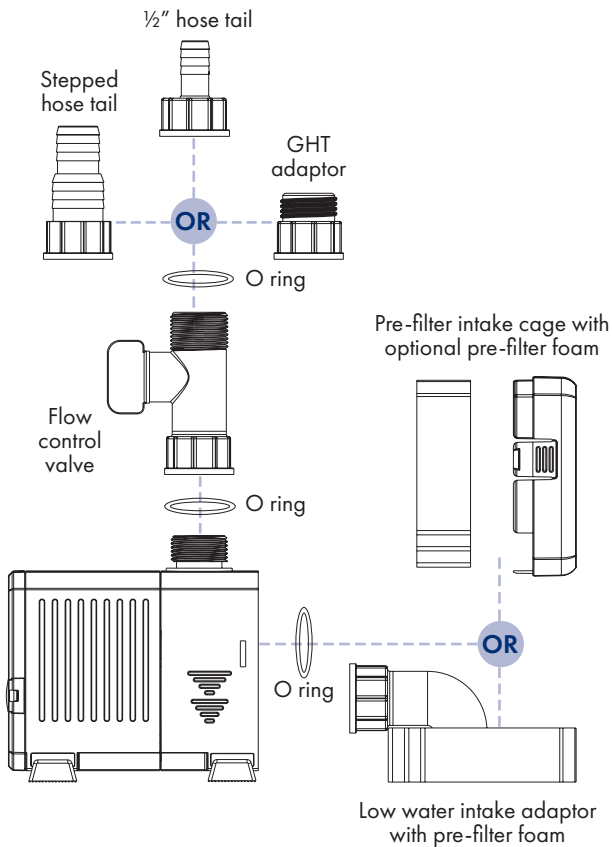


1" / 25 mm 3/4" / 20 mm

IMPORTANT: The outlet hose should be smooth bore (not corrugated) pipe installed over as short a distance as possible, with no kinks or bends. We recommend using a smooth bore clear hose or smooth bore heavy duty black hose.

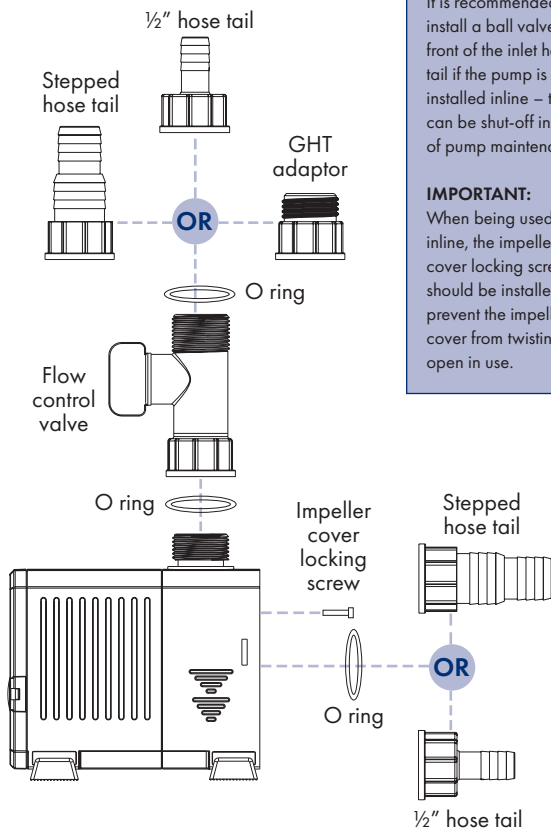
INSTALLATION

SUBMERSIBLE USE:



INSTALLATION

INLINE USE:



IMPORTANT:

It is recommended to install a ball valve in front of the inlet hose tail if the pump is installed in-line – this can be shut-off in case of pump maintenance.

IMPORTANT:

When being used in-line, the impeller cover locking screw should be installed to prevent the impeller cover from twisting open in use.

MAINTENANCE



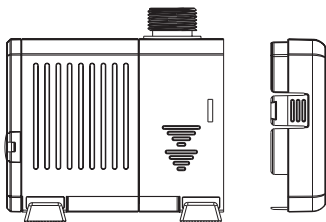
WARNING - Failure to carry out routine maintenance leaving the pump under reduced or no flow conditions for long periods will result in a shorter pump life and invalidate the guarantee.

Pennington® Aquagarden Water Pumps are centrifugal pumps with a magnetic impeller movement driven by a watertight synchronous motor. They require minimum cleaning; only periodic cleaning of the pre-filter and impeller is necessary.

ROUTINE MAINTENANCE

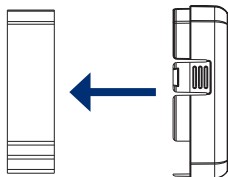
Carry out routine maintenance when pump flow is visibly reduced.

1. Switch off electricity.
2. Remove pump from reservoir (do not use the cable to lift the pump).
3. Remove the front of the pre-filter cage by depressing the button on the side of the pre-filter cage and pulling apart. Wash the cage thoroughly in fresh water. A blocked pre-filter will reduce pump flow. Follow steps 1 and 2 below.



STEP 1:

Depress the button on the side of the pre-filter cage and pull from pump motor.



STEP 2:

Remove the pre-filter sponge and wash thoroughly in fresh water.

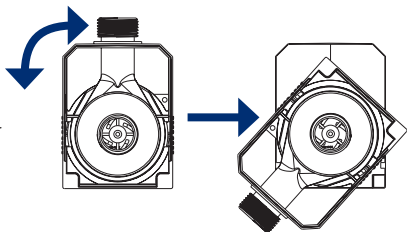
MAINTENANCE

MONTHLY MAINTENANCE

Carry out routine maintenance (steps 1 and 2), then follow steps 3 and 4 below.

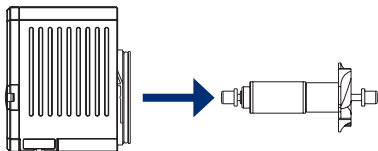
STEP 3:

Remove the impeller cover by turning it counter-clockwise to release the lock, then pull away from the pump motor (remove the impeller cover locking screw if it is in use prior to turning the cover).



STEP 4:

Remove the impeller from the pump motor, wash the impeller and the impeller chamber with plenty of fresh water.



ANNUAL MAINTENANCE

Dismantle pump and examine all parts for wear or damage, replacing any parts that show obvious wear and/or damage. Particular care should be taken to examine the cable entry point and the cable; if there is any sign of damage the pump should be discarded.

WINTER STORAGE

The pump can be run in an outdoor reservoir during the winter, but care should be taken to ensure that it is fully immersed and cannot freeze solid. If the pump is not used during the winter, follow annual maintenance procedure and store frost-free in the house or garage until spring. No additional steps need to be taken for an indoor reservoir.

TROUBLESHOOTING

PROBLEM

Low flow from pump

1. Follow routine cleaning procedure if no improvement.
2. Follow monthly cleaning procedure.
3. Ensure pipe work is not blocked or leaking or is laid so that it gets crushed or kinked.
4. Keep the height that water is to be pumped from the water surface (called head) to a minimum. The higher the head the lower the flow rate and the more wear on the pump.
5. Use the largest diameter, smoothest bore pond hose over the shortest distance and keep hose fittings to a minimum. This removes frictional loss of flow and increases pump flow rates.

No flow from pump

1. Check power supply is on.
2. Check fuse and wiring (SEE ELECTRICAL INSTALLATION).
3. Follow low flow procedure as above.

FAULTS - PROBLEMS PROCEDURE

Before returning your pump to your retailer, please carry out the following steps.

This will solve most problems quickly and easily.

1. Ensure electrical procedure has been followed fully. Check fuse and any cable connectors/switch boxes. **NOTE:** If the pump has overheated the thermal overload will temporarily switch off the pump.
2. Follow the steps below:
 - (a) Follow routine maintenance and check pump.
 - (b) Follow troubleshooting guide.
 - (c) Follow annual maintenance guide.
3. Return pump to point of purchase for inspection and advice.
You may need proof of purchase.