PENNINGTON

Aquagarden

beautifully simple water gardening®

pond fountain pumps 180 & 400

Please visit www.penningtonaquagarden.com for helpful hints, tips, **how-to** videos and spares

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pond fountain pumps

Congratulations on buying your Pennington® Pond Fountain Water Pump.

The compact powerful motors are easy to maintain having a single moving part impeller system. Please carefully read the following guide, which will enable you to get the best from your water pump. Suitable for fresh water or marine use.

IMPORTANT:

PLEASE ATTACH PROOF OF PURCHASE TO THIS MANUAL AND FILE IN A SAFE PLACE.

CONTENTS

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 ELECTRIC 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 UNDESIRED 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.

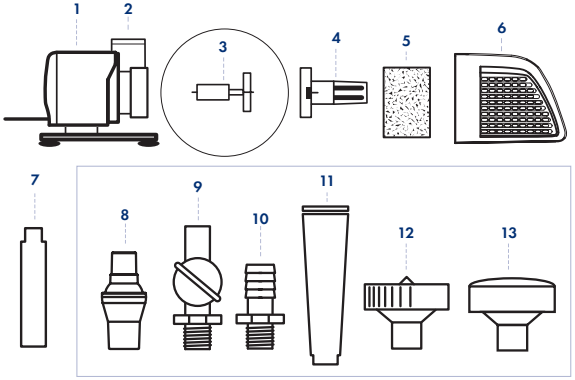
THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE IN A RESIDENTIAL INSTALLATION. THIS EQUIPMENT GENERATES, USES AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTIONS, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. 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.

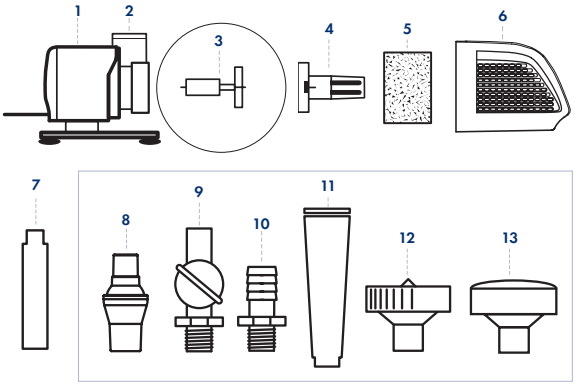
SAVE THESE INSTRUCTIONS

180 POND FOUNTAIN PUMP



No.	180 Part Description	Spare Code
1.	Pump motor unit	N/A
2.	Pump outlet	N/A
3.	Impeller complete	8906
4.	Impeller cover	N/A
5.	Optional pre-filter foam	8910
6.	Pre-filter cage	N/A
7.	Fountain extension pipes x 4	8909
8.	Ball joint	
9.	Fountain feature flow control 1/2 inch	
10.	1/2 inch threaded hose adaptor	
11.	Water bell	
12.	Daisy super	
13.	Daisy	

400 POND FOUNTAIN PUMP



No.	400 Part Description	Spare Code
1.	Pump motor unit	N/A
2.	Pump outlet	N/A
3.	Impellor complete	8907
4.	Impellor cover	N/A
5.	Pre-filter foam	8910
6.	Pre-filter cage	N/A
7.	Fountain extension pipes x 6	8909
8.	Ball joint	
9.	Fountain feature flow control 1/2 inch	
10.	3/4 inch threaded hose adaptor	
11.	Water bell	
12.	Daisy super	
13.	Daisy	

PUMP PERFORMANCE FLOW CHART

Optimum pump flow rate in gallons per hour.

	Model	180	400
LIFT	5 feet		**48** gal/hr
	4 feet	**54** gal/hr	**129** gal/hr
	3 feet	**93** gal/hr	**201** gal/hr
	2 feet	**119** gal/hr	**248** gal/hr
	1 foot	**143** gal/hr	**314** gal/hr
	0 feet	**178** gal/hr	**383** gal/hr

TECHNICAL SPECIFICATION AND PERFORMANCE

Model	180	400
Cable Fitted	16 feet	16 feet
Voltage	120 Volt	120 Volt
Hertz	60Hz	60Hz
Watts	15 Watts	19 Watts
Maximum Flow Rate	178 gal/hr	383 gal/hr
Maximum Pumping Height	4’11”	5’4”

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

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.

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 POND FOUNTAIN PUMP

The pump should be located on a firm and level base in the pond/water feature in a depth of at least 4", but no more than ▽ 4'1" (180) 4'11" (400).

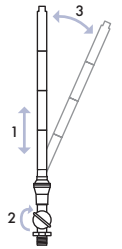
It is advisable to keep the pump off the bottom of the pond to avoid silt entering the pump causing excessive wear and increasing pre-filter cleaning.

FOUNTAIN

Make sure there is ample cable from mains supply. Place pump in desired location. Add Fountain extension pipes so fountain head is above surface of the pond. Fountain height can now be adjusted, see 'Adjusting fountain display' diagram below. See "Getting to know your Pond Fountain Pump" for parts and descriptions.

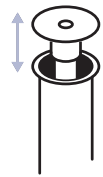
ADJUSTING THE FOUNTAIN DISPLAY

1. Adjust height by push fitting 5cm long extension pipes onto ball joint until desired height has been achieved.
2. Adjust flow by turning clockwise to increase flow, anti-clockwise to reduce flow.
3. Adjust ball joint to enable the extensions to be moved compensating for an uneven pond floor.



BELL FOUNTAIN

Adjust bell by moving head higher for small bell and lower for a wider bell shape.



Tip: Ensure that any fountain or feature fitted does not empty water out of pond/water feature.

WATER FEATURE

Install as Fountain but remove pre-filter foam (if fitted) from cage. Depending on water feature to be supplied, your pump can be used with the flow control and the ½" hose fitting or ¾" hose fitting (not supplied with 180 model) which can be screwed directly into pump body. Hose clips should be used to secure hose. Foam free cage will lower the need for monthly maintenance and not hinder its performance for when running a water feature.

Tip: The larger ¾" hose will give maximum performance when fitted to the 400.

MAINTENANCE & CLEANING

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

Pond fountain pumps 180 and 400 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.

CLEANER

The use of a descaler product will give improved performance and pump life by removing built up lime scale and waste. Use before dismantling for easier and cleaner handling.

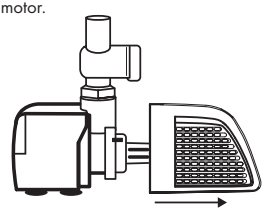
ROUTINE MAINTENANCE

Carry out routine maintenance when pump flow is visibly reduced.

1. Switch off electricity.
2. Remove pump from pond (do not use the cable to lift the pump).
3. Follow steps 1 and 2.

STEP 1: **180** (ROUTINE)

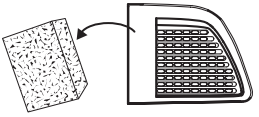
Firmly pull pre-filter cage from pump motor.



STEP 2: **180** (ROUTINE)

Remove pre-filter foam, and wash thoroughly in fresh water.

A blocked foam will reduce the pump flow rate.



MAINTENANCE & CLEANING

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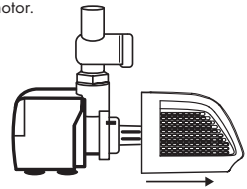

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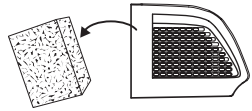


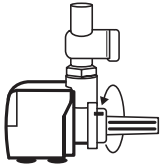
MONTHLY MAINTENANCE

Following as for Routine Maintenance (steps 1 and 2) and then steps 3 and 4 (3 and 4 - 400 model).

STEP 3: **180** (MONTHLY)

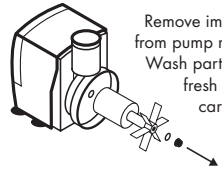
Remove impeller cover by turning anti-clockwise to release lock.

Then pull firmly away from pump motor.



STEP 4: **180** (MONTHLY)

Remove impeller from pump motor. Wash parts with fresh water carefully.



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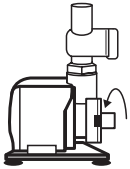

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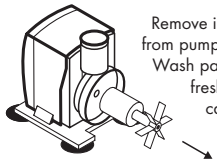

MAINTENANCE & CLEANING

ANNUAL MAINTENANCE

Once a year you should service your pump by using a descaler product, (this may need to be done more frequently in hard water areas).

Dismantle pump and examine all parts for wear or damage, replacing any parts that show obvious wear and/or damage. (See getting to know your pump for parts/description and replacement parts codes.) 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 the pond 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.

TROUBLESHOOTING

PROBLEM

Low flow from the pump

1. Follow routine cleaning procedure if no improvement.
2. Follow monthly cleaning procedure.
3. Ensure pipe work is not blocked, 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 so increases pump flow rates.

TROUBLESHOOTING

Poor Fountain performance

- Reduced height.
- Jets blocked.
  Clean flow adjuster and fountain head.
  Wash under a tap or hose. A descaler product should be used to remove lime scale build-up/ waste (see diagram) for improved results.

DAISY

To clean, remove head and rinse. Or in hard water areas, use a descaler product.

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.

If none of the above works see 'Faults - Problem Procedure' below, visit **www.penningtonaquagarden.com** or contact our 'Consumer Advice' department.

FAULTS - PROBLEMS PROCEDURE

Before returning your pump to your retailer or contacting our Consumer Advice Department, 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 monthly maintenance guide and check pump. **(c)** Follow troubleshooting guide. **(d)** Follow annual maintenance guide.

3. Return pump to point of purchase for inspection and advice. You may need proof of purchase.

Please visit **www.penningtonaquagarden.com** for helpful hints, tips, how-to videos and spares.

www.penningtonaquagarden.com **PenningtonAquagarden**

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beautifully simple water gardening®

GUARANTEE

This product is guaranteed against defects in material and workmanship for 2 years from the date of purchase, under normal usage. The guarantee DOES NOT APPLY in case of improper use, negligence, lack of maintenance or accidental damage to the pump. If the pump fails due to a manufacturing fault within this period it will be either repaired or replaced free of charge. Liability is limited to replacement of the faulty product only; no other costs will be reimbursed.

The guarantee is not transferable and does not affect your statutory rights. This guarantee does not confer any rights other than those expressly set out above.

Excludes the pump impellor which may require replacing annually. If any parts need replacing, spares are available from your retailer. Consumable spares, e.g. pre-filter foams, are not covered by the two-year warranty.

CONSUMER ADVICE CONTACT DETAILS

Pennington, 1280 Atlanta Hwy., Madison, GA 30650
Tel: 1-800-285-7333 **www.PenningtonAquagarden.com**

Environment friendly disposal

You can help protect the environment. Please remember to respect the local regulations by handing in non-working electrical equipment to an appropriate waste disposal centre.

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PUMP

Leaflet Code: 06/10/2022