



# EXT POND PUMP

**EXT 12000 Pond Pump**

Item #45049

**EXT 18000 Pond Pump**

Item #45050

**EXT 12000-3P  
Pond Pump**

Item #45051

**EXT 18000-3P  
Pond Pump**

Item #45052



 us motor



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# EXT Pond Pump

**Thank you for choosing the Aquascape EXT Centrifugal Pump.** At Aquascape we connect people to water the way nature intended. Since 1991 we've been creating and field-testing water features in order to provide you with the most reliable products and best value in the water gardening industry.

We congratulate you on your choice of the Aquascape EXT Pond Pumps. It has been carefully designed using the advantages of today's technology and carefully constructed to give you the dependability of yesterday. To insure proper performance, we urge you to carefully follow the instructions in this manual. If you have any questions, please call your supplier for assistance or visit [www.aquascapeinc.com/contact-us](http://www.aquascapeinc.com/contact-us).



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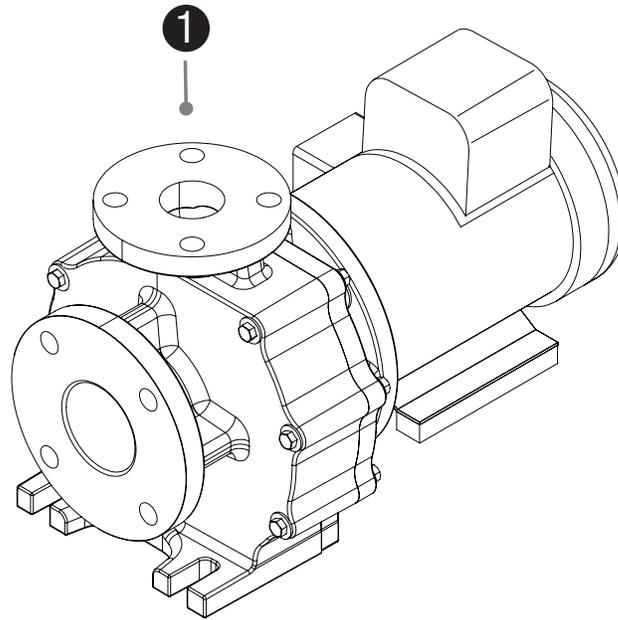
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## Contents

No.	Description
1.	EXT Pond Pump



## Safety Information



**WARNING:** To provide continued protection against risk of electric shock, connect to properly grounded, ground fault circuit interrupter (GFCI) outlets only, using the following guidelines:

- (A) Have a qualified electrician install a properly grounded receptacle outlet, acceptable for outdoor use and protected from snow and rain.
- (B) Inspect cord before using.
- (C) Do not use an extension cord.
- (D) To reduce risk of electrical shock, all wiring and junction connections should be made per local codes. Requirements may vary depending on usage and location.
- (E) The power cable should be protected at all times to avoid punctures, cuts, bruises and abrasions.
- (F) Never handle power cords with wet hands.
- (G) Do not allow the motor to become submerged.
- (H) Never run dry. Never reverse rotation. Never exceed an internal case pressure of: 100 PSI.
- (I) Do not wear loose clothing that may become entangled in the impeller or other moving parts.
- (J) Keep clear of suction and discharge openings. DO NOT insert fingers into pump with power connected.

- (K) Do not pump hazardous materials or liquids, such as oil, saltwater or organic solvents.
- (L) Do not block or restrict discharge.
- (M) Products returned must be cleaned, sanitized, or decontaminated, as necessary, prior to shipment to ensure that employees will not be exposed to health hazards in handling said material. All applicable laws and regulations shall apply.



**IMPORTANT:** Aquascape, Inc. is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, misuse or abuse of pumps or equipment.



**WARNING:** Do not run dry



**WARNING:** Always shut off electrical power before installation and/or servicing this pump. All electrical wiring should meet state and local ordinances. Improper wiring may not only be a safety hazard but may permanently damage the motor and/or pump. Current motors are only available for 60Hz operation.

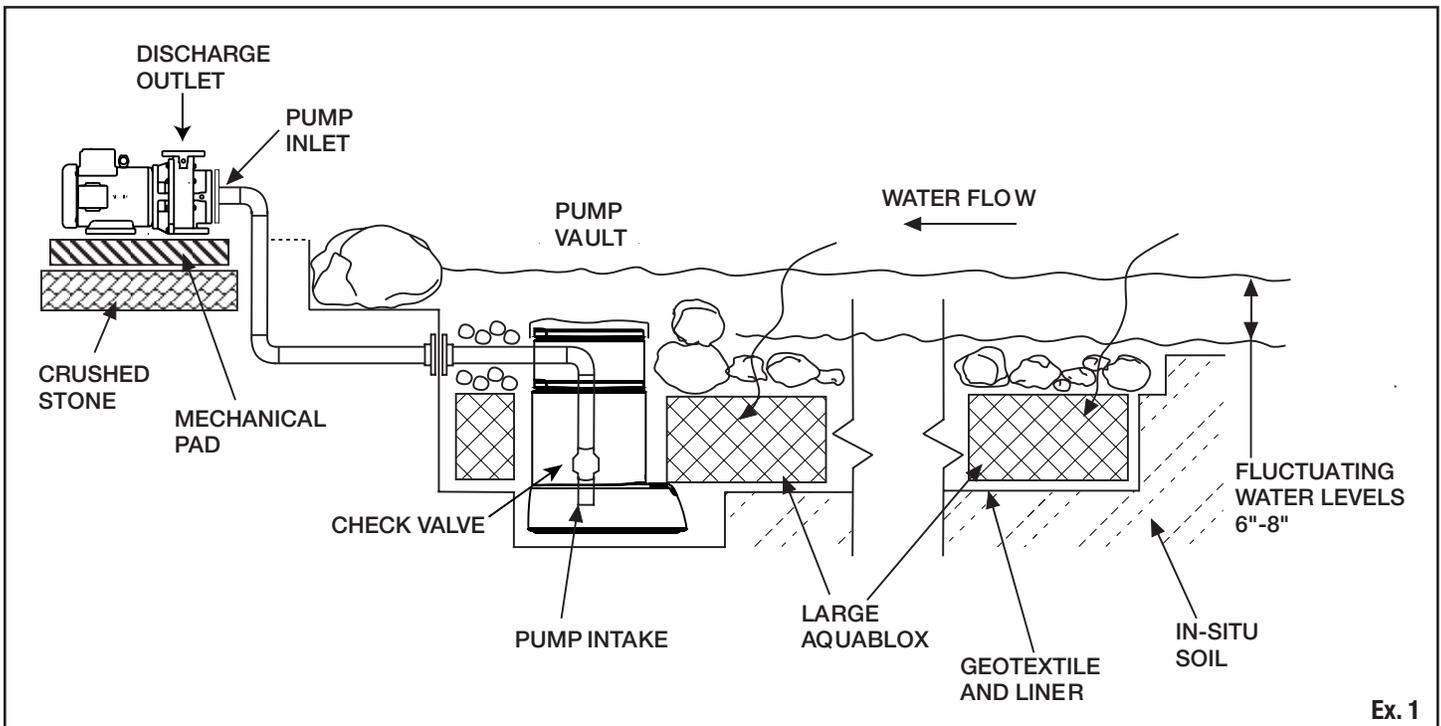
## EXT Pond Pump Specs

Model Number	12000	12000-3P	18000	18000-3P
Item Number	45049	45051	45050	45052
Inlet	3"	3"	3"	3"
Discharge	2"	2"	2"	2"
Max Flow (GPH)	12,500	12,500	18,400	18,400
Max Head (Feet)	21'	21'	45'	45'
Max Power (Watts)	1,100	736	3,300	1,932
Max Current (Amps @ Volts)	10 @ 115v	3.2 @ 230v	30 @ 115v	8.4 @ 230v
Max Current (Amps @ Volts)	5 @ 230v	1.6 @ 460v	15 @ 230v	4.2 @ 460v
Phase	Single	3 - Phase	Single	3 - Phase
Motor HP	3/4	1	3	3
Motor Enclosure	TEFC	TEFC	TEFC	TEFC

## Installation

Please read carefully. When properly installed, the Aquascape EXT Pumps will provide dependable trouble-free service.

- Locate the pump as near the fluid source as possible in order to minimize the length of suction line.
- Mount motor base to a secure, immobile foundation.
- The pipe fittings should be self-supported and in neutral alignment with each port. (i.e. Fittings must not be forced into alignment which may cause premature line failure or damage to the pump volute).
- Never restrict the intake. Keep both input and discharge lines as free of elbows and valves as possible. Always use pipe of adequate diameter. This will reduce friction losses and maximize output (Ex. 1).



### Electrical Hook-Up

- Check that supply voltages match the motor's requirements.
- Check motor wiring and connect, according to instructions on motor, to match supply voltage.
- Verify motor rotation with rotation meter. Incorrect rotation can cause serious damage to pump and/or motor. Aquascape does not recommend checking rotation by quickly switching power on and off because serious damage can occur.

- Power cord should be protected by conduit or by cable and be of proper gauge. It should be no longer than necessary.
- Power should be drawn directly from a box with circuit breaker protection or with a fused disconnect switch.

### Pump End Assembly

- Inspect all pump parts (O-ring, O-ring groove, impeller hub ID, motor shaft, etc.) and clean if necessary.
- Check motor rotation prior to pump assembly.
- Install threaded rod in end of the motor shaft, leaving  $.725" \pm .005"$  extended beyond the end of the motor shaft. Use thread locker to secure in place, let cure overnight.
- Install motor shaft heat shrink tubing sleeve at this time if required.
- Place slinger over motor shaft.
- Using a silicon based grease such as Molykote 111®, lightly grease the OD of the seal head casing/o-ring and the pump bracket seal bore. Press the seal head assembly into the pump bracket seal bore to stop by applying pressure only on the seal casing shoulder (do not press on the seal head carbon.), a 1-3/4" socket has the right clearance to press on the seal casing shoulder. Wipe away any grease squeeze out.
- Lightly grease the seal seat (mating ring) o-ring and impeller hub ID, press the seal seat into the impeller hub to bottom, making sure the o-ring has not dislodged and the seal seat sits flat in the bottom of the impeller hub. Wipe away any excess grease. Lightly chamfer the impeller cap recess.
- Align the bracket over the motor mounting holes and C face. Install bracket/motor mounting bolts and washers. Tighten to 75 in. lbs.
- Place 3/16" square key in motor shaft keyway. If a motor shaft sleeve is installed, the end of the square key will slide underneath.
- Clean both seal faces with a lint free tissue and alcohol.



**WARNING:** Do not use grease on the seal faces. Slide impeller onto motor shaft aligning key and keyways until seal faces touch.

- Slide the impeller further towards the motor, compressing the seal and hold in place while placing rubber impeller washer over the threaded rod until it bottoms in contact with the motor shaft. Impeller metal washer is next placed on top of the rubber impeller washer, lightly grease the side of the metal washer that will contact with the rubber washer. Lock the impeller in place with the 3/8"-16 hex jam nut, tighten to 50 in. lbs.
- Lightly grease the impeller cap o-ring gland, place the o-ring in the gland and lightly grease the outside of the o-ring and the impeller nose opening. Assemble the

impeller cap w/ o-ring onto the threaded rod tighten to 50 in. lbs.

- Place large o-ring into the o-ring gland in the pump bracket, use grease only if required.
- Assemble volute into position aligning over impeller.
- Secure volute to bracket using the supplied five 5/16"-18 x 4" through bolts with washers, lock washers and nuts and three 5/16"-18 x 1-1/4" long bolts with washers and lock washers into the molded inserts. Tighten all bolts to 75 in. lbs.
- Apply thread sealant to the drain plug threads, tighten to seal.
- Discharge hardware is supplied as it uses non-standard (and possibly hard to find) nuts.

### Disassembly

- Shut off power to motor before disconnecting any electrical wiring from the motor.
- Disassemble volute from bracket by removing the five 5/16"-18 x 4" long hex cap screws, and the three 5/16"-18 x 1.25" hex cap screws.
- Pump/Bracket/Impeller Assembly may now be pulled back from the Volute.
- Remove impeller eye 'cap' by unscrewing counterclockwise. Remove impeller locknut, unscrew counterclockwise. Slide impeller off of motor shaft.
- Remove mating ring from impeller. Eye protection is strongly recommended. (If you are replacing the seal)
- Detach bracket from motor.
- Remove mechanical seal from bracket by pressing out from the back. Do not dig out from the front. (If you are replacing the seal).

### General Maintenance

- The pump must be drained before servicing or if stored below freezing temperatures. Periodic replacement of seals may be required due to normal carbon wear.
- Lubrication: Rotary Seal - Requires no lubrication after assembly.

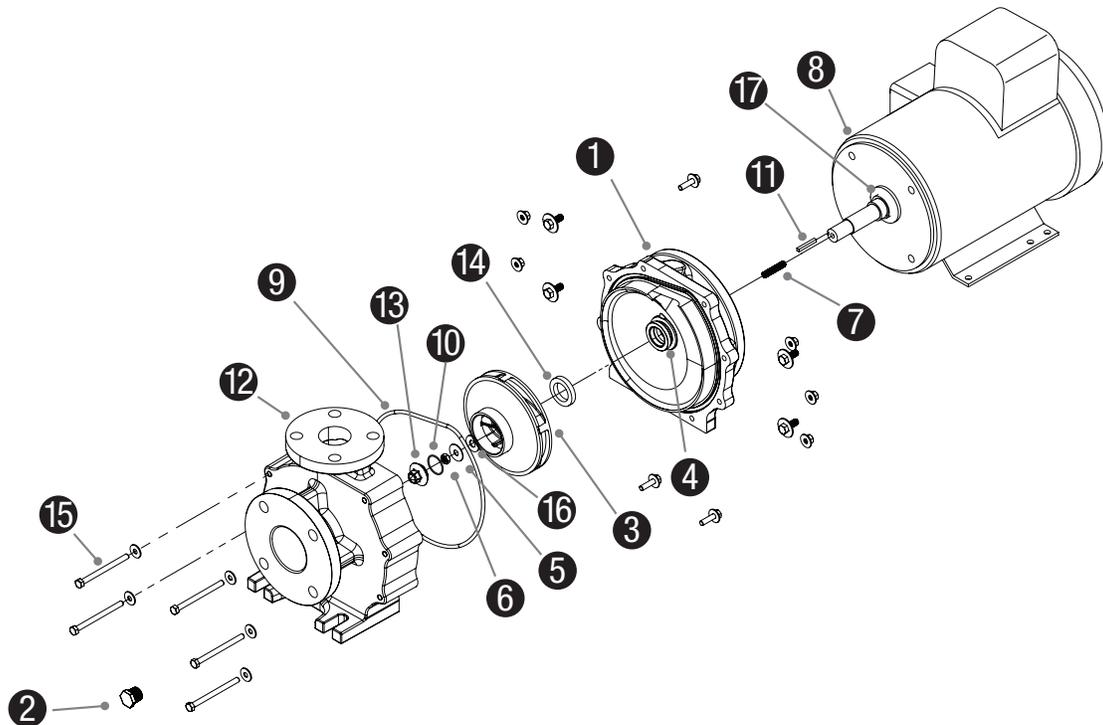
## Troubleshooting

- Motor Will Not Rotate
  - Check for proper electrical connections to motor
  - Check main power box for tripped circuit breaker
- Motor Hums Or Will Not Rotate
  - Check for proper electrical connections to motor and proper wire size according to local electrical codes
  - Check for foreign material inside pump
  - Remove volute and check for impeller rotation without excessive resistance and/or noise
  - Remove pump and check shaft rotation for excessive bearing noise
  - Check start switch and/or capacitor
- Pump Operates With Little Or No Flow
  - Check to insure that pump is primed
  - Check for leaking seal
- Improper line voltage to motor or incorrect rotation
- Check for clogged inlet port and/or impeller
- Defective check or foot valve
- Check inlet lines for leakage, either fluid or air
- Pump Loses Prime
  - Defective check or foot valve
  - Inlet line air leakage
  - Seal leaking
  - Fluid supply low
- Motor Or Pump Overheats
  - Check for proper line voltage and phase, also proper motor wiring
  - Binding motor shaft or pump parts
  - Inadequate ventilation
  - Fluid being pumped should not exceed 194°F (90°C) for extended periods of time

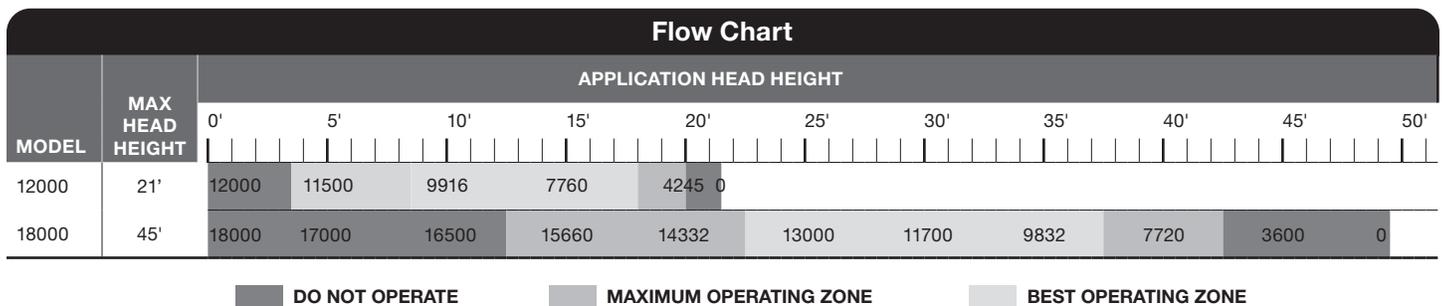
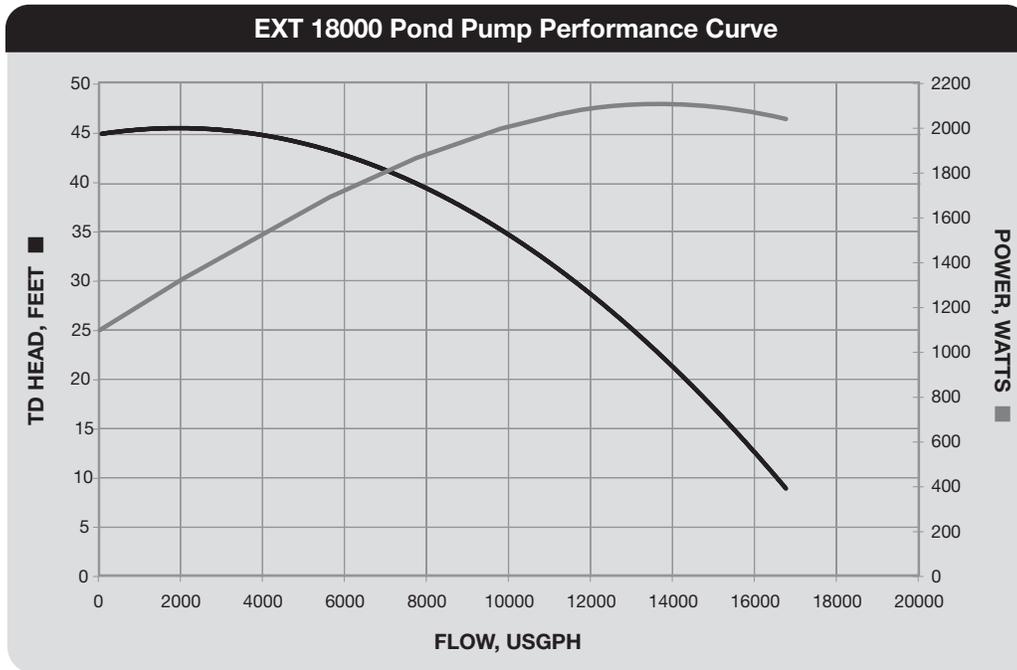
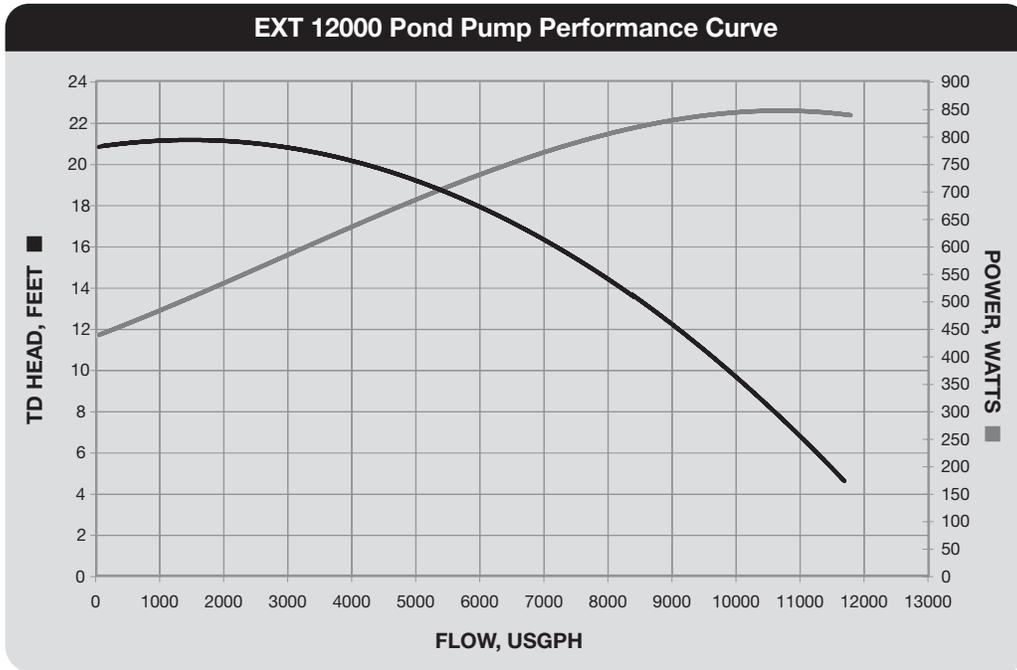
## Parts Diagram

EXT Pump Parts Diagram

No.	Item number/description	No.	Item number/description	No.	Item number/description
1.	Bracket	7.	Threaded Rod, 3/8" - 16 x 1.75" Long, SS	13.	Cap
2.	Drain Plug	8.	Motor	14.	Seal Seat
3.	Impeller	9.	O-Ring, Volute	15.	Hardware Kit
4.	Seal Head	10.	O-Ring, Cap	16.	Impeller Washer Gasket
5.	Impeller Washer	11.	Key, Square, .188" x 1.5" Long, SS	17.	Slinger
6.	Impeller Nut	12.	Volute		



# Pump Specification Reference



## Warranty Information

### 5 YEAR WARRANTY

Aquascape warrants that the EXT Pond Pump will be free of manufacturing defects for five years from date of purchase. Proof of purchase required. Warranty does not cover damage resulting from electrical supply problems, improper wiring, lightning, negligent handling, damage due to operating the pump without sufficient water supply, misapplication, misuse, or lack of reasonable maintenance or care. Warranty does not cover parts subject to normal wear, such as impellers and mechanical seals. This product should only be operated using fresh water without corrosive chemicals like chlorine or bromine. If upon Aquascape's inspection, the pump shows evidence of a manufacturing defect, Aquascape's liability is limited, at Aquascape's option, to the repair of the defect, replacement of the defective product, or refund of the original purchase price. The warranty excludes costs of labor, removal of product, shipping and expenses related to the installation and re-installation of the product. All products that include plumbing (tubing, pumps, check valves) need to be properly drained and winterized otherwise warranty is null and void. No liability for loss or damage of any nature or kind, whether arising out of or from the use of the product, whether defective or not defective, is assumed by Aquascape, Inc. or its affiliates. Aquascape shall not be liable for any incidental, consequential or other damages arising under any theory of law whatsoever.

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