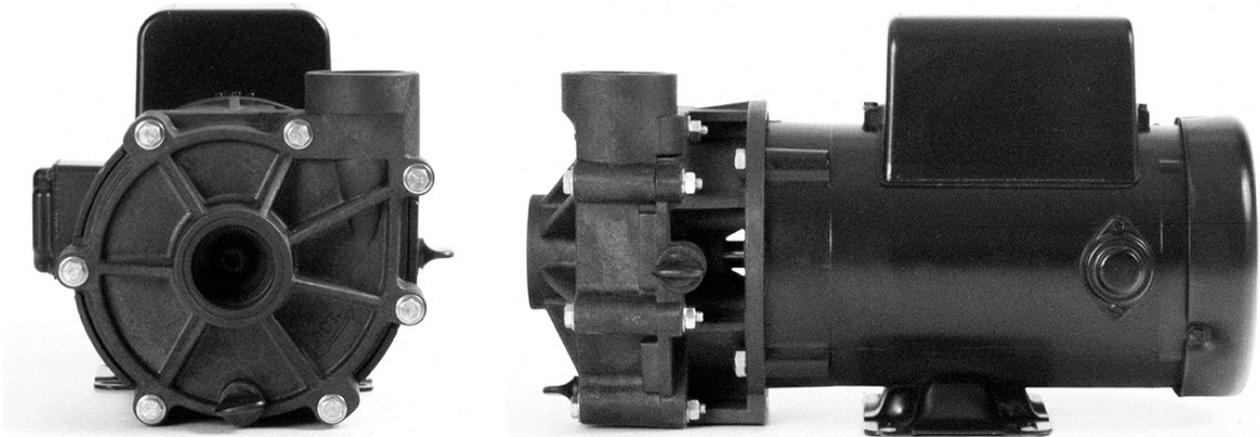


PerformancePro Pumps

Cascade

Owners Manual

Reliable, Energy-Efficient
Centrifugal Pumps



PerformancePro Pumps are end suction centrifugal units that close couple to 56J motors. They are molded of Noryl or Polypropylene for excellent corrosion resistance. Both suction and discharge ports are 1 1/2" female NPT.



WARNING: PLEASE READ COMPLETELY BEFORE YOU INSTALL OR OPERATE YOUR NEW PUMP! NEVER RUN PUMP DRY! NEVER REVERSE ROTATION! NEVER EXCEED AN INTERNAL CASE PRESSURE OF: 100 PSI MAX NORYL

Thank you for choosing a PerformancePro pump. It has been designed and built to provide you with years of dependable service. To insure maximum performance, we urge you to carefully follow the instructions in this manual. If you have any questions, call your nearest distributor or (503) 356-5888 for assistance.

Installation

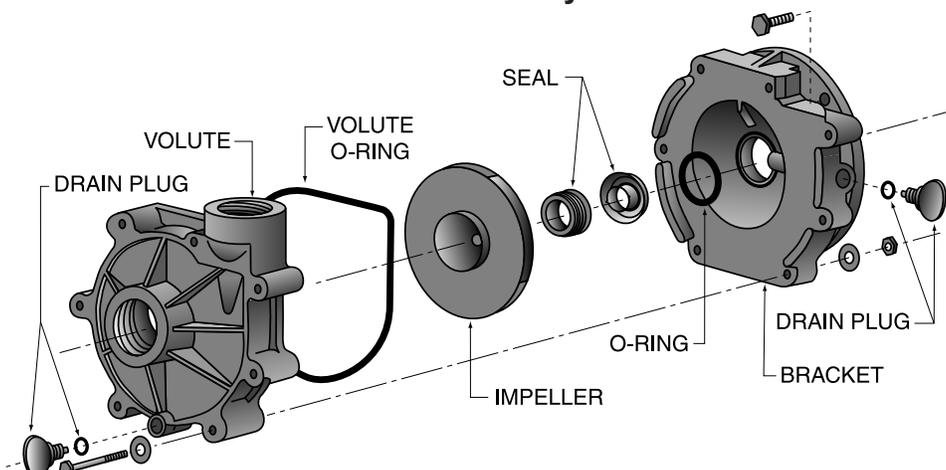
Proper installation of your pump will help it to provide you with dependable, trouble free service. Please follow the general guidelines listed below to help insure maximum performance.

1. Position the pump as near the source and as low as is practical. This will help avoid cavitation and maximize your pumps output.
2. Protect the motor from excessive heat and moisture. It is best to provide shade from direct sun, and insure that it has proper ventilation. Excessive heat will shorten the motor life and void the warranty.
3. Protect the motor against dirt, water, corrosive salt build up, and all foreign matter. If the motor has been flooded, shut off power and do not operate it until it has been checked by an authorized motor technician, and it has been certified safe to operate. If the motor is damaged by dirt or moisture it voids the warranty.
4. Mount the motor to a stable base where it won't get submerged.
5. The pump ports are 1 1/2" NPT female on both the suction and discharge. The fittings used to connect to the housing should be plastic. All plumbing lines should be self supported and properly aligned. This will prevent undue stress to the housing. We recommend sealing the pipe threads with TFE (Teflon) paste.
6. The intake to the pump should never be restricted. Keep your suction lines as free of elbows, fittings and valves as possible. The use of large diameter pipe will help provide adequate flow, as it reduces friction loss.
7. This is a non self priming pump and is best suited with a flooded suction. The pump housing, and the entire suction line must be filled with fluid for it to operate properly.

Electrical

1. Make sure the power is disconnected at the breaker before wiring the motor.
2. Make sure that the motor is wired so that it matches the supply voltage (eg. 115 or 230 volt). If they do not match it will damage your motor and void the warranty.
3. Use a wire of adequate gauge and length to prevent electrical line losses. The use of heavier gauge wire will allow the motor to run cooler and more efficiently.
4. Make sure all connections are clean and tight. Properly ground the motor. (There is normally a green ground terminal located on the inside of the motor connection box.) Make sure the ground wire is properly connected to an electrical service ground. Connect the pump permanently to an adequately sized circuit. It is best to have a dedicated circuit that won't suffer voltage drop from other loads.

Disassembly



1. Shut off the power to the motor before disconnecting any electrical wiring from the back of the motor.
2. Disassemble the volute from the bracket-motor assembly by removing the seven 1/4 20 x 2 3/4 cap screws. (The volute may be left in-line if you wish.)

Disassembly Continued

3. Remove the cap covering the back end of the motor shaft and with a large screwdriver or wrench, prevent shaft rotation while unscrewing the impeller counterclockwise.
 4. Remove the ceramic piece from the impeller hub.
 5. Detach the bracket from the motor by removing the four 3/8" cap screws, and slide it forward, away from the motor.
 6. Remove the carbon-graphite seal from the bracket by pressing it out from the back. Do not dig it out from the front! (A large socket or pipe nipple can be used.)
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Pump End Assembly

1. Check all pump parts and clean as needed.
 2. If the motor shaft has corrosion build up, use emery cloth to clean it.
 3. Install the O-ring into the O-ring gland in the bracket bore.
 4. Press the carbon seal head into the bracket bore. **CAUTION! Press only on the stainless steel or polypropylene shell, NOT ON THE DELICATE CARBON FACE! DO NOT TOUCH THE CARBON SEAL FACE!**
 5. Insert the slinger, if you are using one, onto the motor shaft. Note: It is not recommended to use a slinger in conjunction with a PVC shaft sleeve.
 6. Mount the bracket onto the motor C-face using four 3/8" cap screws and tighten them snugly.
 7. Press the ceramic into the impeller hub. It helps to moisten the rubber boot with water first. The ceramic **MUST SIT FLAT**. If one side is higher than the other, the seal will leak! The smooth face must be up and exposed.
 8. Screw the impeller clockwise onto the motor shaft and tighten. You can hold the shaft stationary at the opposite end of the motor with a large screwdriver or wrench.
 9. Place the large O-ring in the groove in the volute. Note: It is easiest to lay the volute, suction side down, place the O-ring in the groove, and lower the bracket/motor assembly down onto the volute. (So the O-ring doesn't pop out.)
 10. Install the seven 1/4" x 2 3/4" cap screws with washers and tighten in a cross pattern until they are reasonably snug. (No need to overtighten).
 11. Place the small O-rings onto both drain plugs, and screw them into the 1/4" holes in the volute and bracket.
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Trouble Shooting Aid

Motor Will Not Start

1. Check for voltage present at connection box.
2. Check that the supply voltage matches the motor voltage connections.
3. Check that you have proper line voltage.
4. Check that all connections are sound.
5. Check that the motor shaft rotates easily by hand. (This can be checked at the rear of motor by turning with screwdriver or wrench.)

Motor Won't Start, But It Hums.

1. Check items 2-5 above.
2. Check that there is no foreign matter lodged between the contacts of the start switch.
3. Check to insure the capacitor is functioning properly.

Motor Gets Hot And Shuts Down.

1. Check for proper wiring in the motor box. The supply voltage must match the motor voltage connections.
2. Check the voltage at the motor box, with the motor and all other loads normally on the circuit running. It must not be significantly below the nominal voltage.
3. Check to see if the motor shaft turns without excessive resistance. Bad bearings, or a clogged impeller can cause excessive resistance.
4. Make sure any check valves are installed in the correct direction.
5. Check that the pump impeller and the housing are not clogged or blocked.

Pump Will Not Hold A Prime.

1. Check for defective joints at all pipe fittings. They must be air tight.
2. Check for a defective check valve or foot valve.
3. Check for a leaking seal.

PerformancePro Pumps Artesian and Cascade Series Limited Warranty

PerformancePro Pumps warrants its Artesian series of centrifugal pumps to be free of defects in material and/or workmanship at the time of purchase. In the event this product malfunctions within three years from the date of purchase, the sole obligation of PerformancePro Pumps will be to repair or replace the product.

THIS LIMITED WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND EXCLUSIONS:

1. PerformancePro Pumps must perform all warranty repairs. Purchaser must retain the purchase receipt and present it with this certificate as proof of ownership and entitlement to warranty repairs. Unauthorized repairs will not be compensated by PerformancePro Pumps, and are not the responsibility of PerformancePro Pumps. If such repairs damage the product, such damage is not remediable under this warranty.

2. Problems or damage resulting from failure to comply with instructions in the owner's manual, improper plumbing and positioning, flooding, corrosion or salt build up, incompatibility with fluid chemistry and running unit dry are not covered under this warranty. Malfunction for any other reason - including but not limited to misuse, negligence, accident, tampering with parts, incorrect wiring, or improper installation - will not be remedied under this warranty.

3. Purchaser shall bear all shipping, packing, and insurance costs and all other costs, excluding labor and parts necessary to effectuate repairs under this warranty.

4. Periodic check-ups are not covered by this warranty.

5. This is the sole and exclusive manufacturer's warranty. Any and all implied warranties, including any warranties of merchantability and fitness for particular purpose, shall have no greater duration than the duration period of the express written warranty applicable to this product, and shall terminate automatically upon the expiration of such duration period. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No action shall be brought for breach of any express warranty subsequent to the expiration of this express written warranty. Except as is otherwise provided by applicable law, no action on a warranty implied at law shall be commenced more than one year following the date of purchase.

6. Incidental and consequential damages (specifically including, but not limited to, damages for loss of profits or damages relating to down time of people or equipment) caused by malfunction, defect, or otherwise, and with respect to breach of any express or implied warranty, are not the responsibility of PerformancePro Pumps, and, to the extent permitted by law, are hereby excluded both for property damage and, to the extent not prohibited by applicable law, for personal injury damage. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

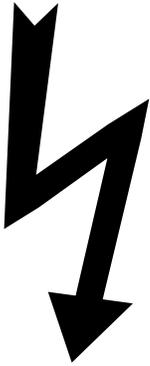
7. The provisions of this warranty are severable and if any provision shall be deemed invalid, the remaining provisions shall remain in full force and effect.

8. Rights under this warranty are not assignable without the express prior consent in writing by PerformancePro Pumps. Regardless of the terms of any consent in writing, the assignees shall have no greater rights than his assignor had against PerformancePro Pumps. Any purported assignment without the consent of PerformancePro Pumps shall be null and void.

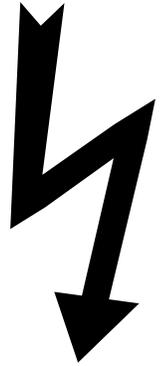
9. This contract shall be governed by and in accordance with the laws of the state of Oregon.

10. This limited warranty is incorporated by reference into the contract of purchase for the products supplied by PerformancePro Pumps to purchaser under said contract.

WIRING INSTRUCTIONS



IMPORTANT SAFETY INSTRUCTIONS
Please read all instructions completely before
you install or operate your new pump.
Save these instructions for future reference.



The motors used with the PerformancePro pumps are high quality, industrial duty motors. They are dual voltage motors, and are designed to be operated at either 115 volt (low) or 230 volt (high). They have been wired and tested at the factory at 115 volt, AC current. □

wiring diagram. **The supply voltage you bring to the motor must match the motor voltage, as you have wired it. If these do not match, you will damage the motor.**

Example: For a Baldor 1/4HP, 1Ø, 1725 RPM, motor (with the following diagram)

LOW VOLTAGE		
LINE A	LINE B	TOGETHER
1, 3	4	2, J

HIGH VOLTAGE			
LINE 1	LINE B	TOGETHER	TAPE
1	4	2, 3	J

CONNECTIONS ABOVE GIVE CLOCKWISE ROTATION FACING LEAD END.

For low voltage:

1. Connect your incoming hot lead (normally the black wire) to the wires marked #1 and #3.
2. Connect your incoming neutral lead (normally the white wire) to the #4 wire.
3. Twist wires #2 and #J together.
4. Use appropriately sized wire nuts to insure all connections are secure and insulated.
5. Connect your incoming ground (normally green) to the green colored screw in the connection box.

For high voltage:

1. Connect your incoming hot lead (normally the black wire) to wire #1.
2. Connect your other hot lead (normally the white wire) to wire #4.
3. Connect wire #2 and #3 together.
4. Tape off the wire marked J.
5. Use appropriately sized wire nuts to insure all connections are secure and insulated.
6. Connect your ground lead (normally green) to the green screw in the connection box.

Note: Your motor may have a different wiring diagram. If so, follow its instructions for line placement.

PerformancePro Pumps Inc.

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