

STA-RITE®

293 Wright Street, Delavan, WI 53115

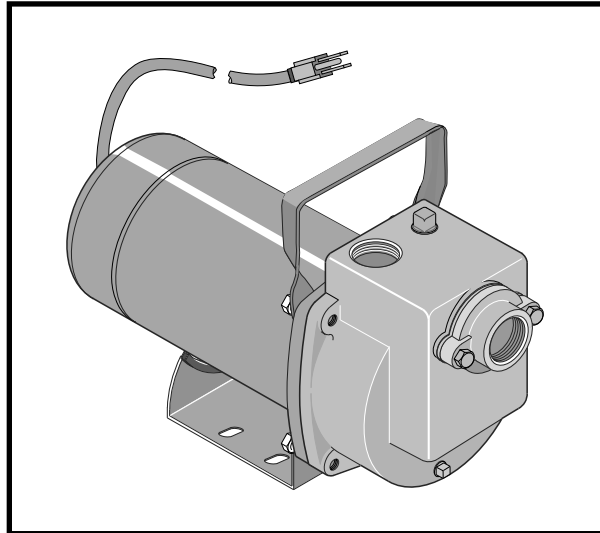
Phone: 1-888-782-7483

Fax: 1-800-426-9446

Web Site: Sta-Rite.com

OWNER'S MANUAL

Portable Utility Water Pump



DPC

Installation/Operation/Parts

*For further operating, installation, or
maintenance assistance:*

Call 1-888-782-7483

Important Safety Instructions

SAVE THESE INSTRUCTIONS - This manual contains important instructions that should be followed during installation, operation, and maintenance of the product. Save this manual for future reference.

⚠ This is the safety alert symbol. When you see this symbol on your pump or in this manual, look for one of the following signal words and be alert to the potential for personal injury!

⚠ DANGER indicates a hazard which, if not avoided, *will* result in death or serious injury.

⚠ WARNING indicates a hazard which, if not avoided, *could* result in death or serious injury.

⚠ CAUTION indicates a hazard which, if not avoided, *could* result in minor or moderate injury.

NOTICE addresses practices not related to personal injury.

Carefully read and follow all safety instructions in this manual and on pump.

Keep safety labels in good condition.

Replace missing or damaged safety labels.

Make workshops childproof; use padlocks and master switches; remove starter keys.

General Safety

1. To avoid risk of serious bodily injury and property damage, read the safety instructions carefully before installing this pump.
2. Follow local and/or national plumbing and electrical codes when installing the pump.
3. **⚠ WARNING Hazardous Pressure.** The pump body may explode if used as a booster pump unless a relief valve capable of passing the full pump flow at 75 PSI (517 kPa) is installed.
4. Never run the pump dry. To do so can damage internal parts, overheat pump (which can cause burns to people handling or servicing pump), and will void warranty.
5. **⚠ WARNING Risk of fire or explosion.** To avoid risk of fire and explosion, Pump Water Only with this pump. Do not use this pump in an atmosphere that might contain flammable fumes or vapors.
6. **⚠ WARNING Burn Hazard.** If water is trapped in the pump during operation it may turn to steam. Trapped steam can lead to an explosion and burns. Never run the pump with the outlet closed or obstructed.
7. **⚠ CAUTION Burn Hazard.** Do not touch an operating motor. Modern motors can operate at high temperatures. To avoid burns when servicing the pump, allow it to cool for 20 minutes after shut-down before handling.

Electrical Safety

The pump is supplied with a 3-conductor grounding type cord. Connect only to a properly grounded, GFCI protected outlet. Do not lift the pump by the electrical cord.

⚠ WARNING Hazardous voltage. Can shock, burn or cause death. Ground pump before connecting to power supply. Disconnect power before working on pump, motor or tank.

The pump is non-submersible. Keep the motor dry at all times. Do not wash the motor. Do not immerse. Protect the motor from wet weather.

If using an extension cord, use only a UL approved indoor/outdoor, 3-wire, grounding type cord. Do not allow any part of the cord or the receptacle ends to sit in water or in damp locations.

Unplug the pump before servicing. To avoid fatal shocks, proceed as follows if the pump needs servicing.

- A. Disconnect the power to the pump outlet box before pulling the pump plug. After the plug is pulled, let the pump cool for 20 minutes before attempting to work on it.
- B. Take extreme care when changing fuses. To reduce the chance of fatal electrical shock, DO NOT stand in water or put your finger in the fuse socket.
- C. Ground electrical outlet box.
- D. Plug pump into a Ground Fault Circuit Interrupter (GFCI) protected grounded outlet only.

Retain Original Receipt For Your Records

Limited Warranty

STA-RITE warrants to the original consumer purchaser ("Purchaser" or "You") of the products listed below, that they will be free from defects in material and workmanship for the Warranty Period shown below.

Product	Warranty Period
Water Systems Products — jet pumps, small centrifugal pumps, submersible pumps and related accessories	<i>whichever occurs first:</i> 12 months from date of original installation, or 18 months from date of manufacture
Pro-Source™ Composite Tanks	5 years from date of original installation
Pro-Source™ Steel Pressure Tanks	5 years from date of original installation
Pro-Source™ Epoxy-Lined Tanks	3 years from date of original installation
Sump/Sewage/Effluent Products	12 months from date of original installation, or 18 months from date of manufacture

Our warranty will not apply to any product that, in our sole judgement, has been subject to negligence, misapplication, improper installation, or improper maintenance. Without limiting the foregoing, operating a three phase motor with single phase power through a phase converter will void the warranty. Note also that three phase motors must be protected by three-leg, ambient compensated, extra-quick trip overload relays of the recommended size or the warranty is void.

Your only remedy, and STA-RITE's only duty, is that STA-RITE repair or replace defective products (at STA-RITE's choice). You must pay all labor and shipping charges associated with this warranty and must request warranty service through the installing dealer as soon as a problem is discovered. No request for service will be accepted if received after the Warranty Period has expired. This warranty is not transferable.

STA-RITE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING WARRANTIES SHALL NOT EXTEND BEYOND THE DURATION EXPRESSLY PROVIDED HEREIN. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on the duration of an implied warranty, so the above limitations or exclusions may not apply to You. This warranty gives You specific legal rights and You may also have other rights which vary from state to state.

This warranty supersedes and replaces all previous warranty publications.

STA-RITE INDUSTRIES

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Before You Install Your Pump

Pump clean water only with this pump.

NOTICE: This unit is not designed for applications involving salt water or brine! Use with salt water or brine will void warranty.

To avoid clogging the pump and damaging the shaft seal, do not pump water containing solids, foreign material, sand, silt, or abrasives. Always have the suction strainer installed when the pump is operating. Failure to use a strainer may cause the pump to fail and void the warranty.

Clean the strainer and flush out the pump after each use. Make sure all of the hose and pipe connections in the suction line are tight. An air leak in the suction line will prevent the pump from priming and reduce pump performance.

Tighten all of the piping joints to the pump hand tight +1-1/2 turns only. Overtightening may break the pump and will void the warranty.

Do not allow the pump or any system component to freeze. Freezing will void the warranty.

Periodically inspect the pump and the system components.

Priming The Pump

All suction connections must be airtight. Make sure the suction lift is not more than 25 feet (7.6M).

NOTICE: ‘Priming’ refers to the pump expelling all air in the system and beginning to move water from its source out into the system. It does not refer only to pouring water into the pump (although pouring water in is usually the first step).

▲ CAUTION Burn Hazard. NEVER run the pump dry. Running the pump without water may cause pump to overheat, damaging seal and possibly causing burns to persons handling the pump. Running pump without water can damage the impeller and may damage the seal, causing leaking or flooding, and will void the warranty. Fill the pump with water before starting it. Follow the steps below.

1. Remove the priming plug.
2. Make sure the suction and the discharge valves and any hoses on the discharge side of the pump are open.
3. Fill the pump and suction pipe with water
4. Replace the priming plug, using ¹Teflon™ tape or Teflon™ based joint compound on the thread; tighten the plug.

¹ E. I. DuPont de Nemours and Company Corporation, Delaware

NOTICE: If a priming tee and plug have been provided for a long horizontal run, be sure to fill the suction pipe through this tee and replace the plug. (Use Teflon™ tape on the plug.)

5. Start the pump; water should be produced in 10 minutes or less. The time will depend on the depth to water. If no water is produced within 10 minutes, stop the pump, release all the pressure, remove the priming plug, refill the pump and pipe and try again.

Pumping From Lakes, Streams, and Ponds (See Figure 1)

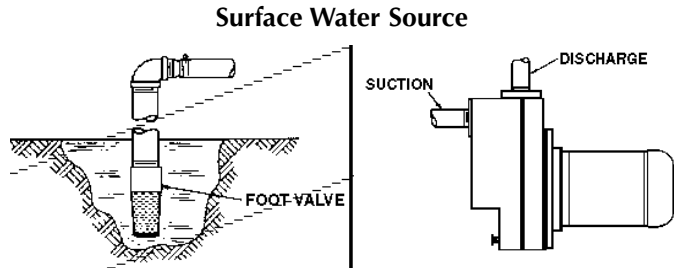


Figure 1

NOTICE: Check valve or foot valve required to maintain pump prime.

Locate the pump as near as possible (vertically) to the water source, to keep the suction lift (distance from the water to the pump) as low as possible. Place the pump on level support. Protect against excess moisture and flooding.

Long pipe runs and many fittings increase friction and reduce flow. Use the smallest possible number of fittings and the shortest possible run for piping.

Support the weight of the pipe.

Be sure the water is clear of debris which can clog the pump, such as sand, dirt, or scale. Be sure the foot valve and the pipe are clean and in good condition; scale or dirt in the foot valve can cause the valve to leak. Valve leakage may cause the pump to lose its prime, which can result in pump failure.

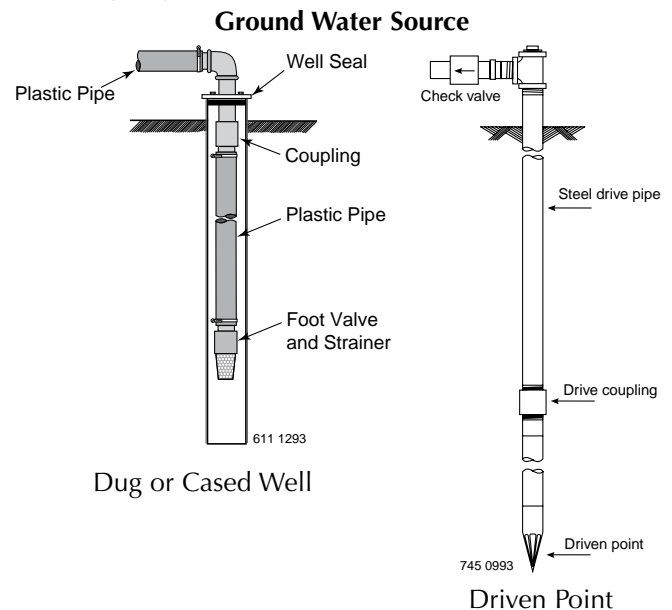


Figure 2

Piping

Both the suction and discharge are tapped for 1-1/4" pipe. If you are using hose or plastic pipe for the suction and discharge, install 1-1/4" MNPT x Hose Barb or 1-1/4" MNPT x 1-1/4" Slip adapter(s) in the pump port(s). When hose is used for suction, be sure it is reinforced hose designed for this purpose.

A strainer and foot valve should be used on the end of suction pipe, or hose, to prevent loss of prime. It will also prevent foreign material from entering the pump which may damage the impeller and plug the pump. Performance ratings are for 1" pipe. Capacity will be reduced when garden type hose or smaller piping is used. Inspect the strainer frequently and clean when necessary.

NOTICE: This unit is not designed for applications involving salt water or brine! Use with salt water or brine will void warranty.

Pump water only with this pump.

Plastic Pipe

Plastic pipe may be used for any installation of this pump. No special tools are required to use this pipe. Installation can be made quickly and easily. Plastic pipe may be used for either suction or discharge hose.

WARNING Burn Hazard. NEVER run pump dry. Running pump without water may cause pump to overheat,

damaging seal and possibly causing burns to persons handling pump. Fill pump with water before starting.

WARNING Burn Hazard. NEVER run pump against closed discharge. To do so can boil water inside pump, causing hazardous pressure in unit, risk of explosion and possibly scalding persons handling pump.

Electrical

WARNING Hazardous voltage. Can shock, burn or kill. Ground pump before connecting to power supply. Disconnect power before working on pump, motor or tank.

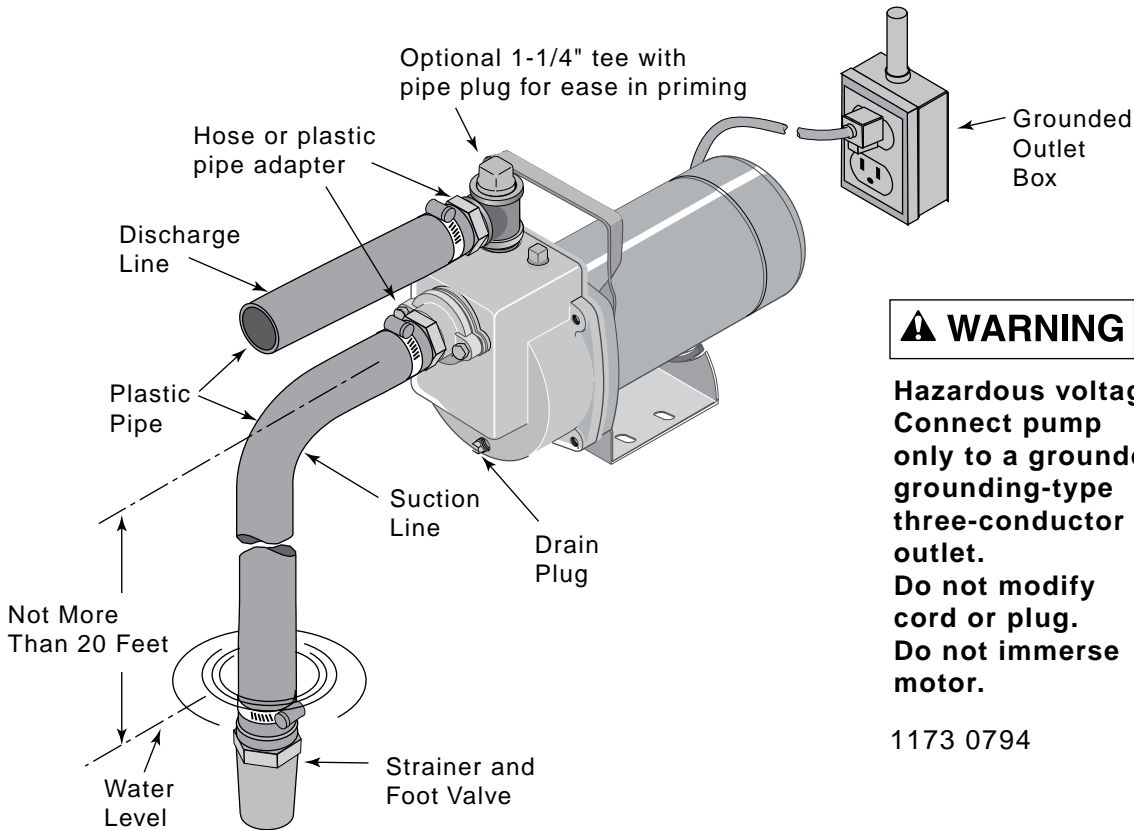
This pump is supplied with a dual voltage 60 Hz. motor, factory set to 115 Volts. The pump should be plugged into a properly grounded GFCI outlet.

Do not cut the round grounding prong off the plug.

Extension Cords

If using an extension cord, the wire gauge (wire size) used in the extension cord must be of sufficient size to carry the current load. This chart shows the proper cord size for the extension cord length:

Distance	Cord Wire Size (AWG)
Up to 100'	14
100' to 200'	12
200' to 300'	10



WARNING

Hazardous voltage. Connect pump only to a grounded, grounding-type three-conductor outlet. Do not modify cord or plug. Do not immerse motor.

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Figure 3

Draining

The pump and piping should always be protected against freezing temperatures. If there is any danger of freezing, drain the pump and piping. To drain pump, remove the drain plug at the bottom of the pump body and remove priming plug. Drain all piping.

Lubrication

It is never necessary to add oil lubrication to this centrifugal pump or its motor. The motor is of the sealed ball bearing type, grease packed for life.

Replacing Mechanical Seal

This pump is furnished with a mechanical seal. It is properly installed at the factory to prevent leakage, and requires no further attention. It cannot be adjusted, and no attempt should be made to adjust it. However, it is sometimes necessary to replace this seal. If so, please follow the instructions carefully.

The Shaft Seal

The shaft seal consists primarily of two parts, a rotating member and a ceramic seat.

NOTICE: The highly polished and lapped faces of the seal are easily damaged. Read instructions and handle the seal with care.

Removal Of Old Seal

1. Remove motor from pump body.
2. After unscrewing the impeller, carefully remove the rotating part of the seal by prying up on the sealing washer, using two screwdrivers (Figure 4A).
3. Tap out the ceramic seat with a screwdriver (see Figure 4B). Clean cavity from which seal was removed and clean motor shaft.

Installation Of New Seal

1. Clean polished surface of ceramic seat with a clean cloth.
2. Wet the O-Ring in the ceramic seat with soap solution.
3. Press seat into cavity firmly and squarely with finger pressure. If seat will not locate properly in this manner, place cardboard washer over polished face of seat and use piece of 3/4" standard pipe for pressing purposes. Figure 4C.
4. Dispose of cardboard washer and again be sure that polished surface of seat is free of dirt or foreign particles, and has not been scratched or damaged by the insertion.
5. Inspect shaft to make sure that it is clean.
6. Clean face of sealing washer with clean cloth.
7. Apply soap solution to inside diameter and outer face of rubber drive ring.
8. Slide seal assembly onto shaft (sealing face first) until rubber drive ring slides over shaft shoulder.
9. Screw impeller onto shaft until impeller hub hits shaft shoulder. This will automatically locate seal in place and move the sealing washer face up against floating seal face. Figure 4D.
10. Reassemble pump in reverse order of disassembly.

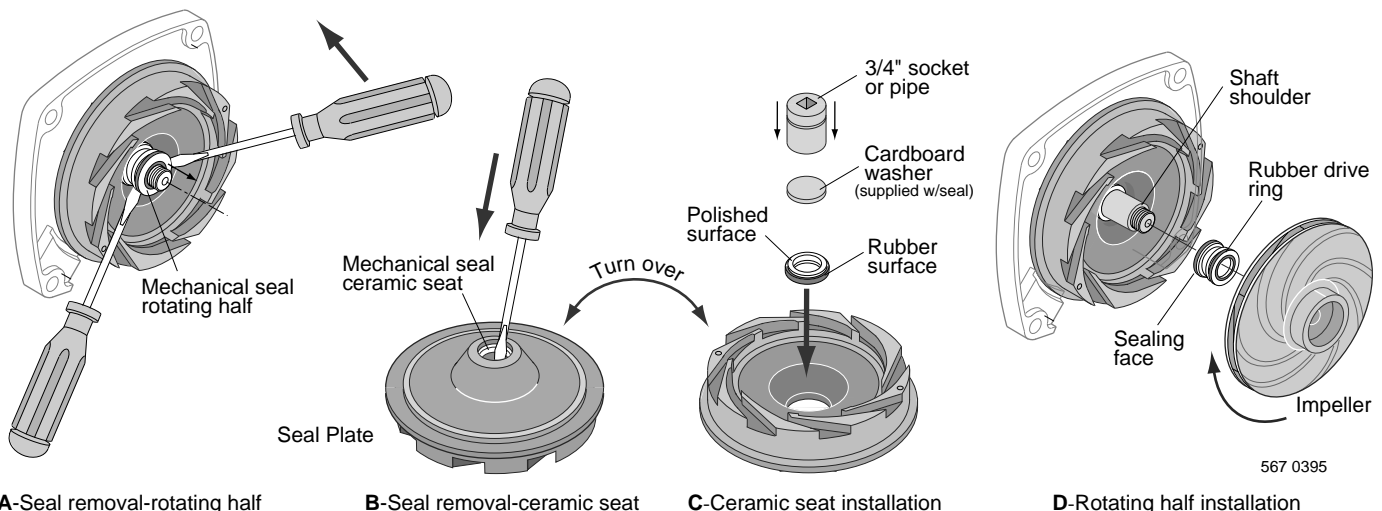
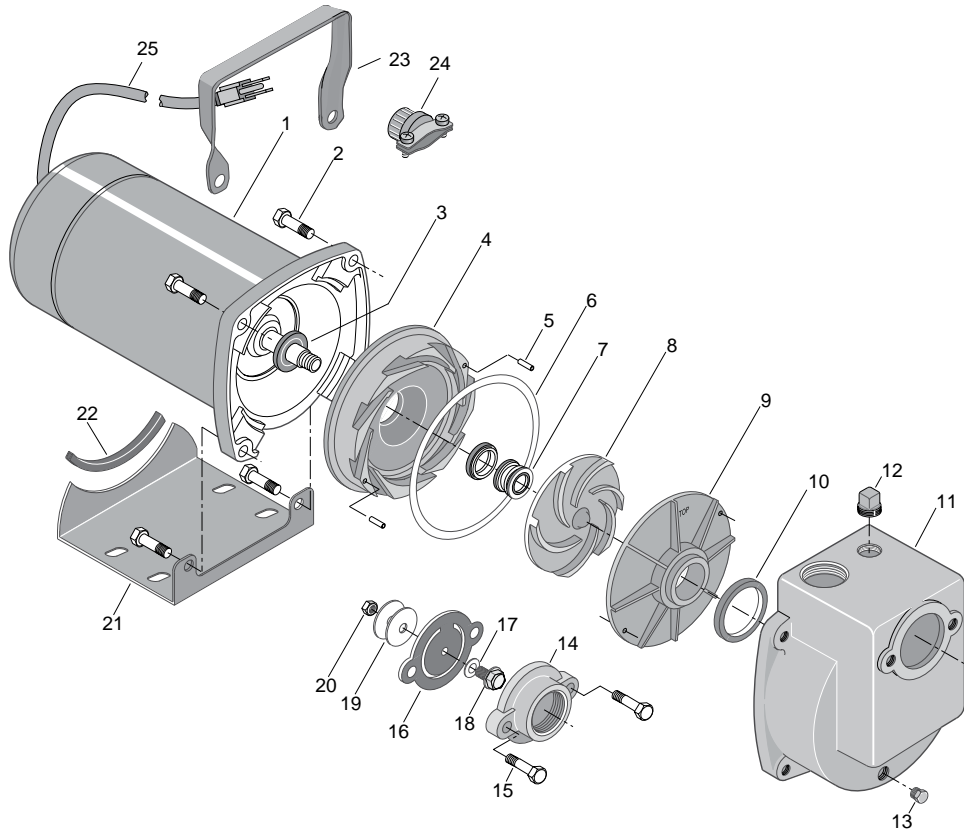


Figure 4

Symptom	Probable Cause(s)	Corrective Action
Failure to pump.	Pump not properly primed.	Make sure pump body is full of water. See priming instructions.
	Speed too low.	Check voltage at motor terminals and at meter when pump is operating. If low, refer to wiring instructions, or check with your Power Company. Check for loose connections.
	Total head too high.	A pump designed for high head service is needed.
	Suction lift too great.	Locate pump closer to source of water. Make sure suction piping is large enough.
	Excessive air leak in suction line.	Check and repair suction line.
	Water level drops while pumping, uncovering suction inlet.	Check water supply. Add pipe to suction to keep it submerged.
Reduced capacity and/or head (pressure).	Air pocket or leaks in suction line.	Check suction piping.
	Clogged impeller.	Remove and clean.
	Foot valve strainer too small, or clogged.	Use larger foot valve, clean.
	Insufficient submergence of suction pipe.	Add lengths of suction pipe to keep it well below the water surface.
	Excessive dynamic suction lift (over 20 ft.).	If caused by suction pipe friction, enlarge piping and foot valve. Otherwise move pump closer to water level.
	Total head (pressure) more than that for which pump was intended.	A larger pump is needed.
	Excessively worn impeller.	Order replacement parts, using repair parts list in this manual.
Mechanical troubles and noise.	Suction and/or discharge piping not properly supported and anchored.	See that all piping is supported to relieve strain on pump assembly.
	Motor runs hot and overload kicks off.	Check the voltage dial on the motor to set it to the correct input voltage.



Ref.	Part Description	Qty.	Part Number
1	Motor - 1/2 HP 115V/230V - 60 Hz.	1	J218-582A-115-PKG
2	Hex Capscrew - 3/8 - 16x1-1/2"	4	†
3	Water Slinger	1	17351-0009
4	Seal Plate Diffuser	1	C3-120
5	Roll Pin 3/32 x 5/16"	2	U30-522SS
6	Gasket	1	N20-35
7	Shaft Seal	1	U109-6A
8	Impeller	1	C5-184P
9	Diffuser Cover	1	C6-47P
10	Diffuser Ring	1	C21-11
11	Pump Body	1	C76-41
12	Pipe Plug - 1/2" Square Head	1	U78-59ZPS
13	Pipe Plug - 1/4" Hex Head	1	U78-941ZPV
14	Flange - 1-1/4" NPT	1	PW16-4
15	Capscrew - 3/8-16 x 1" Hex Head	2	U30-74ZP
16	Check Valve Flapper	1	PW22-1
17	Washer	1	U43-41SS
18	Capscrew - 1/4-20 x 3/4" Hex Washer Head	1	37006-4652
19	Washer	2	U43-138ZP
20	Hex Nut - 1/4-20	1	U36-36ZP
21	Base	1	J4-9
22	Rubber Pad	1	C35-5
23	Handle	1	C54-21
24	Strain Relief	1	U71-7
25	Cord	1	U17-402

† Standard hardware item; purchase locally.