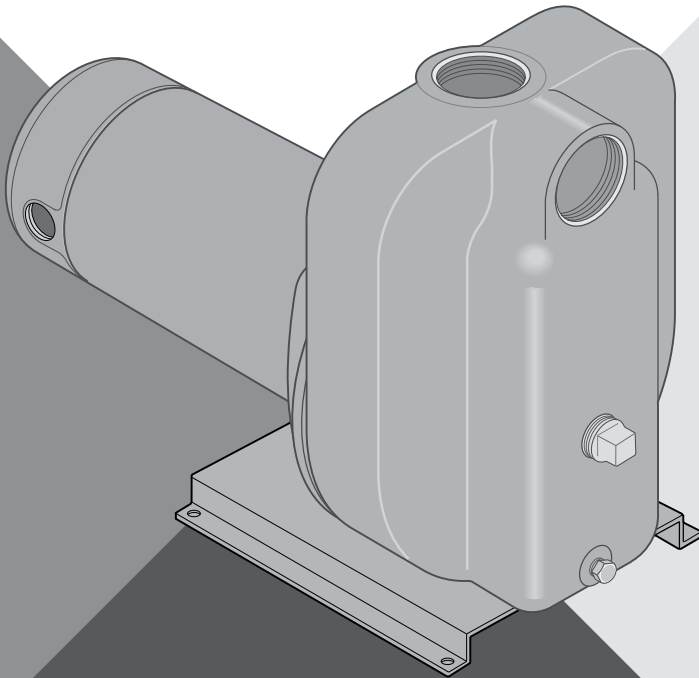




# FP5200 SERIES SELF-PRIMING CENTRIFUGAL PUMP



## INSTALLATION AND OPERATION MANUAL

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# SAFETY INFORMATION

Carefully read and follow all safety instructions in this manual or on pump. Keep safety labels in good condition. Replace missing or damaged safety labels.

**⚠** 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** warns about hazards that will cause serious personal injury, death or major property damage if ignored.

**⚠ WARNING** warns about hazards that can cause serious personal injury, death or major property damage if ignored.

**NOTICE** indicates special instructions which are important but not related to hazards.

## CALIFORNIA PROPOSITION 65 WARNING

**⚠ WARNING** This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.


## ELECTRICAL SAFETY

**⚠** Wire motor for correct voltage. See “Electrical” section of this manual and motor nameplate.


**⚠** Ground motor before connecting to power supply.

**⚠** Meet National Electrical Code, Canadian Electrical Code, and local codes for all wiring.

**⚠** Follow wiring instructions in this manual when connecting motor to power lines.

<b>⚠ WARNING</b>	
	Hazardous voltage. Can shock, burn, or cause death. Ground pump before connecting to power supply.

## GENERAL SAFETY

<b>⚠ WARNING</b>	
	Hazardous pressure! Install pressure relief valve in discharge pipe. Release all pressure on system before working on any component.

**⚠ WARNING** Do not touch an operating motor. Modern motors can operate at high temperatures. To avoid burns when servicing pump, allow it to cool for 20 minutes after shut-down before handling.

- Pump is designed as a lawn sprinkler only. To avoid heat buildup, over-pressure hazard, and possible injury, do not use in a pressure tank (domestic water) system. Do not use as a booster pump; pressurized suction may cause pump body to explode.
- Do not allow pump or piping system to freeze. Freezing can damage pump and pipe, may lead to injury from equipment failure, and will void warranty.
- Pump only water with this unit.
- Periodically inspect pump and system components.
- Wear safety glasses at all times when working on pumps.
- Keep work area clean, uncluttered and properly lighted; properly store all unused tools and equipment.
- Keep visitors at a safe distance from the work areas.
- Make workshops childproof; use padlocks and master switches; remove starter keys.

# INSTALLATION

## PRIOR TO PUMP INSTALLATION

- The well must not be more than 20 foot depth to water.
- Long runs and many fittings increase friction and reduce flow. Locate pump as close to the well as possible, using use as few elbows and fittings as possible.
- Ensure the well is clear of sand. Sand will clog the pump and void the warranty.
- Protect pump and all piping from freezing. Freezing will split pipe, damage pump and void the warranty. Check local frost protection requirement. Usually piping must be 12" below frost line and the pump must be insulated.
- Be sure all pipes and the foot valve are clean and in good shape.
- Ensure there are no air pockets or leaks in suction pipe. Use PTEE pipe thread sealant tape to seal pipe joints.
- Unions installed near the well and pump aid in servicing. Make sure to leave room for use of wrenches.

**⚠ WARNING** Pump body may explode if used as a booster pump. DO NOT use in a booster application.

## WELL PIPE INSTALLATION

Use the installation method below that matches your well type.

### CASED WELL INSTALLATION

1. Inspect foot valve to be sure it works freely. Inspect strainer to be sure it is clean.
2. Connect foot valve and strainer to the first length of suction pipe and lower pipe into well. Add sections of pipe as needed, using PTFE pipe thread sealant tape on male threads. Be sure that all suction pipe is leakproof or pump will lose prime and fail to pump.
3. Install foot valve 10 to 20 feet below the lowest level to which water will drop while pump is operating (pumping water level). Your well driller can furnish this information.
  - To prevent sand and sediment from entering the pumping system, the foot valve/strainer should be at least 5 feet above the bottom of the well.
4. When the proper depth is reached, install a sanitary well seal over the pipe and in the well casing. Tighten the bolts to seal the casing.
5. When using a foot valve, a priming tee and plug are recommended (Figure 1).

### DUG WELL INSTALLATION

Follow the same instructions as outlined in Cased Well Installation.

### DRIVEN WELL POINT INSTALLATION

1. Connect the suction pipe to the drive point (Figure 2). Keep horizontal pipe run as short as possible. Use PTFE pipe thread sealant tape on male pipe threads. Multiple well points may be necessary to provide sufficient water to pump.
2. Install a check valve in horizontal pipe. Ensure the check valve's flow arrow point toward the pump.

## HORIZONTAL PIPING FROM WELL TO PUMP INSTALLATION

1. Never install a suction pipe that is smaller than the suction port of the pump.
2. To aid priming with well point installations, install a check valve as shown in Figure 2. Ensure the check valve's flow arrow point toward the pump.

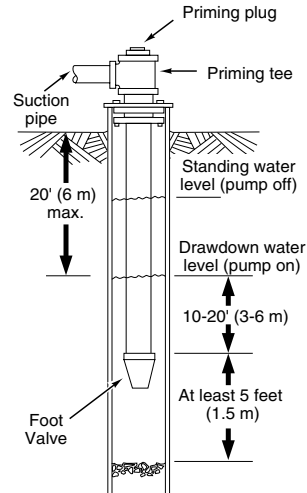


Figure 1 – Cased/Dug Well Installation

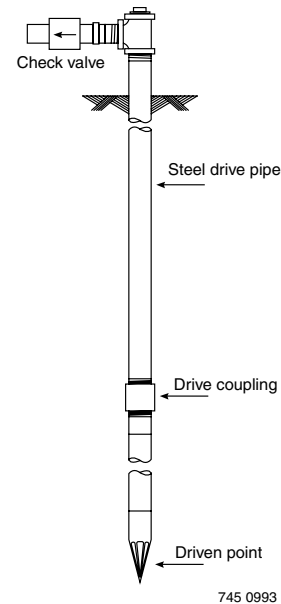


Figure 2 – Driven Point Installation

## DISCHARGE PIPE SIZES

1. If increasing discharge pipe size, install reducer in pump discharge port. Do not increase pipe size by stages.
2. When the pump is set away from the points of water use, the discharge pipe size should be increased to reduce pressure losses caused by friction.
  - Up to 100' run: Same size as pump discharge port.
  - Up to 100' run: Same size as pump discharge port.
  - 100' to 300' run: Increase one pipe size.
  - 300' to 600' run: Increase two pipe sizes.

# INSTALLATION

## LAWN SPRINKLING APPLICATION

This pump is designed for a pond, cistern or well points. Pump discharge can be divided to supply two (2) or more sprinkler systems. A suggested multiple discharge to service is shown in Figure 3.

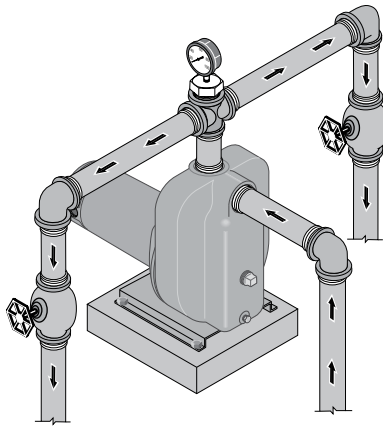


Figure 3 - Multiple Discharge

## PUMP/PIPING INSTALLATION

Use only PTFE pipe thread sealant tape for making all threaded connections to the pump itself. Do not use pipe joint compounds on plastic pumps: they can react with the plastic in the pump components.

Make sure that all pipe joints in the suction pipe are air tight as well as water tight. If the suction pipe can suck air, the pump will not be able to pull water from the well.

1. Bolt pump to solid, level foundation.
2. Support all piping connected to the pump.
  - Install pump as close to well head as possible. Long piping runs and many fittings create friction and reduce flow.
3. Wrap 1-1/2 to 2 layers of PTFE pipe thread sealant tape clockwise (as you face end of pipe) on all male threads being attached to pump.

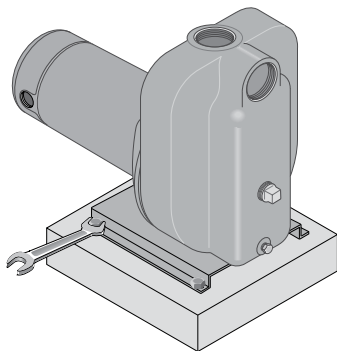


Figure 4 - Bolt Pump Down

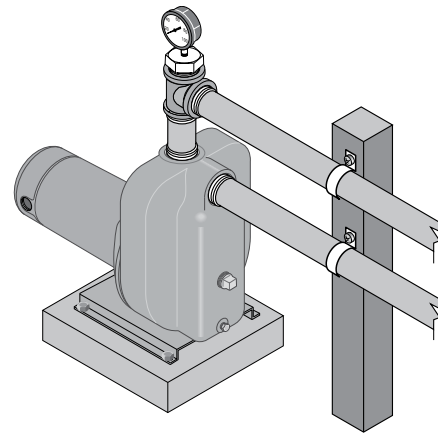
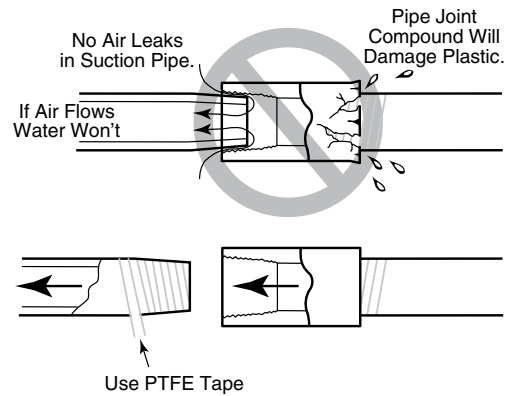
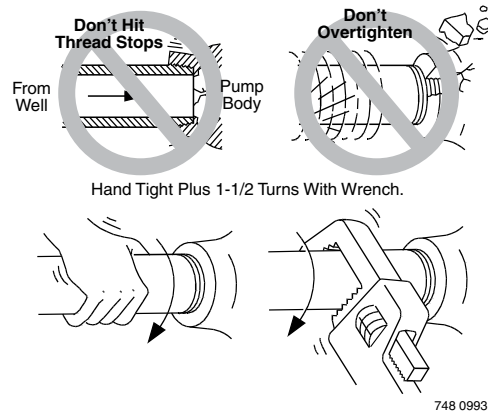


Figure 5 - Independently Support All Piping Attached to Pump

4. Tighten joints hand tight plus 1-1/2 turns. Do not overtighten.
5. If long, horizontal pipe runs have to be used, install a priming tee between the check valve and the well head (Figure 1). Use schedule 80 or iron pipe.



1102 0697



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# ELECTRICAL INSTALLATION

## WIRING

Install, ground, wire and maintain this pump in accordance with electrical code requirements. Consult your local building inspector for information about codes. Read and follow all warnings below.


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

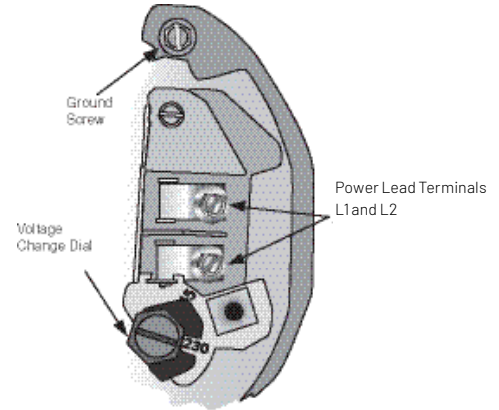
**⚠** To avoid dangerous or fatal electrical shock, turn OFF power to motor before working on electrical connections.

**⚠** Supply voltage must be within  $\pm 10\%$  of nameplate voltage. Incorrect voltage can cause fire or damage motor and voids warranty. If in doubt consult a licensed electrician.

**⚠** Use wire size specified in this manual's Wiring Chart.

**⚠** Wire motor according to diagram on motor nameplate. If nameplate diagram differs from this manual's diagrams, follow nameplate diagram.

1. Provide a correctly fused disconnect switch for protection while working on motor. Consult local or national electrical codes for switch requirements\*.
  2. Disconnect power before servicing motor or pump. If the disconnect switch is out of sight of pump, lock it open and tag it to prevent unexpected power application.
  3. Ground the pump permanently using a wire of the same size as specified in this manual's Wiring Chart. Make ground connection to green grounding terminal under motor canopy marked GRD. or .
  4. Connect ground wire to a grounded lead in the service panel or to a metal underground water pipe or well casing at least 10 feet long. Do not connect to plastic pipe or insulated fittings.
- ⚠** Do not ground to a gas supply line
5. Protect current carrying and grounding conductors from cuts, grease, heat, oil, and chemicals.
  6. Motor has automatic internal thermal overload protection. If motor has stopped for unknown reasons, thermal overload may restart it unexpectedly, which could cause injury or property damage. Disconnect power before servicing motor.



**Figure 9 : Voltage set to 230 volt current. Rotary selector**

7. If this procedure or the wiring diagram are confusing, consult a licensed electrician
  - Refer to Figure 9 for wiring configuration.
  - Connect current-carrying conductors to terminals L1 and L2. When replacing the motor, check wiring diagram on the motor nameplate. For 3-phase motors or motor's whose wiring diagram does not match Figure 9, follow the diagram on the motor.

## 115 VOLT USAGE CONFIGURATION

115/230 volt, single phase models are configured at the factory for 230 volt usage.

If power supply will be 115 volts:

1. Ensure power is off.
2. Remove motor cover.
3. Using a screwdriver or 1/2" wrench, turn the voltage selector dial counter-clockwise to the 115 volt setting.
4. Replace motor cover.

## WIRING CHART RECOMMENDED WIRE AND FUSE SIZES

Pump Model	HP	Max. Load Amps	Phase, Volts	Hz	Branch Fuse* Rating* Amps	DISTANCE IN FEET (METERS) FROM MOTOR TO SUPPLY			
						0' - 50'	51' - 100'	101' - 200'	201' - 300'
						AWG WIRE SIZE - 115V/230V (mm2)			
FP5242	1-1/2	19.2/9.6	1ph, 115/230	60	25/15	10/14 (5.5/2)	10/14 (5.5/2)	8/14 (8.4/2)	6/12 (9/3)
FP5252	2	12	1ph, 115/230	60	15	14 (2)	14 (2)	14 (2)	12 (3)

(\*) Dual element or Fusetron time delay fuses recommended for all motor circuits.

# OPERATIONS

## PRIMING THE PUMP

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).

1. Make sure suction and discharge valves and any hoses on discharge side of pump are open.
2. Remove priming plug. Fill pump and suction pipe with water (Figure 10). **NEVER** run pump dry. Running pump without water in it will damage seals and can melt impeller and diffuser. Be sure discharge (valve, pistol grip hose nozzle, etc.) is open whenever pump is running.
  - If a priming tee and plug have been provided for a long horizontal run, be sure to fill suction pipe through this tee and replace plug. Remember to tape the plug.
  - Replacing the existing priming plug with one that has a pressure gauge and reducer bushing mounted in it will make troubleshooting pump performance easier.
3. Start pump. Water should be produced in 10 minutes or less. The time depends on the well's depth to water and the length of horizontal run. If no water is produced within 10 mins., stop pump, release all pressure, remove priming plug, refill, and try again.

**⚠ WARNING** Hazardous pressure and risk of explosion and scalding. If pump is run continuously at no flow (that is, with discharge shut off or without priming), water may boil in pump and piping system. Under steam pressure, pipes may rupture, blow off of fittings or blow out of pump ports and scald anyone near.

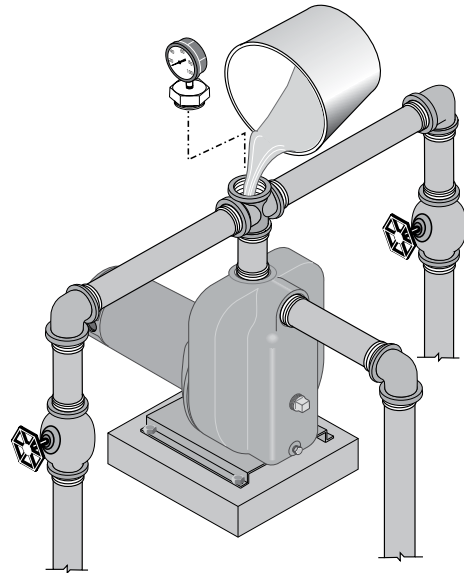


Figure 10 – Remove Priming Plug and Fill Pump Before Starting

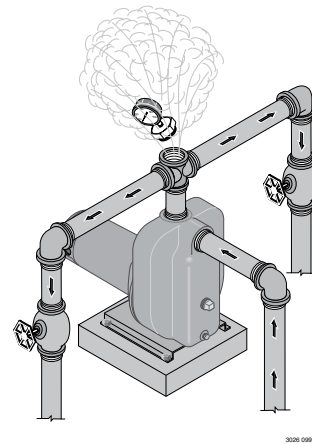


Figure 12 – Do Not Run Pump with Discharge Shut-off.

# MAINTENANCE

The pump and piping do not need to be disconnected to repair or replace the motor or seal.

If motor is replaced, a new shaft seal must be installed. Keep an extra shaft seal on hand for future needs.

Check motor label for lubrication instructions. The mechanical shaft seal in the pump is water lubricated and self-adjusting.

## PUMP DISASSEMBLY

Drain pump when disconnecting from service or when it might freeze.

1. Disconnect power to motor.
2. Mark wires for correct assembly.
3. Release all water pressure from system.
4. Remove drain plug and drain pump.
5. Remove capscrews holding seal plate to pump body. Motor assembly and seal plate can now be pulled away from pump body (Figure 14).
6. CAREFULLY remove gasket.

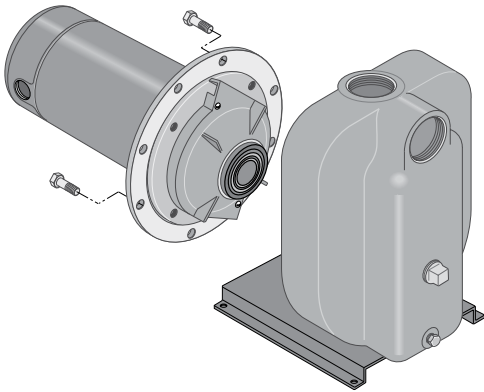


Figure 14 - Slide Motor Back

## CLEANING/REPLACING IMPELLER

1. Follow instructions under "Pump Disassembly".
2. Remove screws fastening the diffuser to the seal plate.

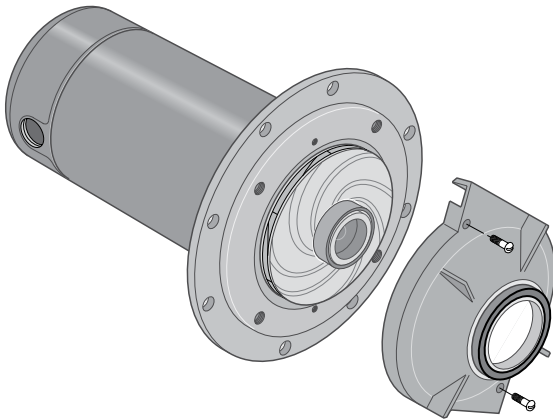


Figure 15 - Remove Diffuser

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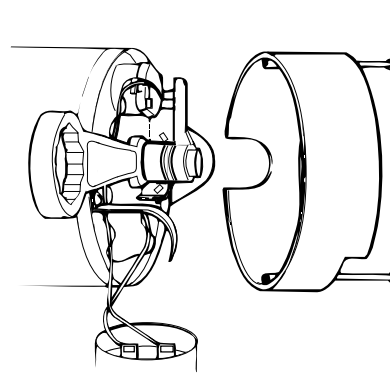
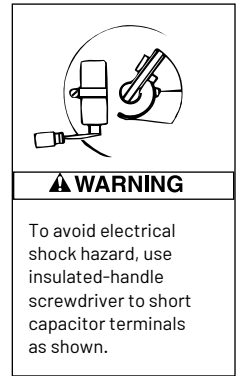


Figure 16 - Hold Shaft



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3. Remove diffuser (Figure 15). The exposed impeller can now be cleaned.
4. If impeller must be replaced, loosen two machine screws and remove motor canopy (Figure 16).
5. **⚠ WARNING Capacitor voltage may be hazardous.** To discharge capacitor, hold insulated handle screwdriver **BY THE HANDLE** and short capacitor terminals together (Figure 16). Do not touch metal screwdriver blade or capacitor terminals. If in doubt, consult a qualified electrician.
6. Unscrew capacitor clamp and remove capacitor. Do not disconnect capacitor wires to motor.
7. Slide a 7/16" open-end wrench behind the spring-loaded switch on the motor end of the shaft.

Hold motor shaft with wrench on shaft flats and unscrew impeller screw (if used) by turning clockwise (left hand thread) when looking into eye of impeller.

8. Unscrew impeller while holding shaft by turning counterclockwise while looking into eye of impeller.
9. To reinstall, reverse steps 1 through 6 and follow directions in the "Pump Reassembly" section below.

## REMOVING OLD SEAL

1. Follow instructions under "Pump Disassembly".
2. Follow steps 2 through 5 under "Cleaning/Replacing Impeller".

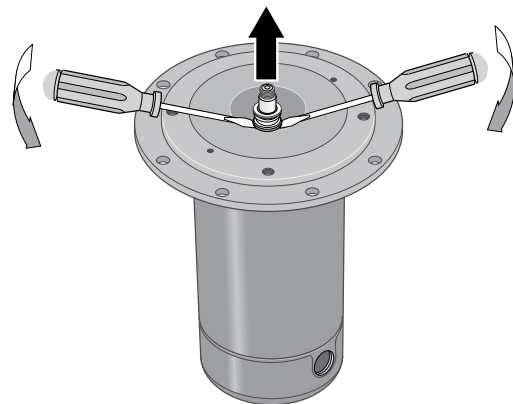


Figure 17 - Remove Seal Plate

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## MAINTENANCE

3. Remove rotating half of seal by placing two screwdrivers under seal ring and **carefully** prying up (Figure 17).
4. Remove nuts from studs holding seal plate to motor. Carefully slide seal plate off of shaft.  
**NOTICE:** Be sure you do not scratch or mar shaft. If shaft is marred, it must be dressed smooth with fine emery or crocus cloth before installing new seal. DO NOT reduce shaft diameter!
5. Place seal plate half face down on flat surface and tap out stationary half of seal (Figure 18).

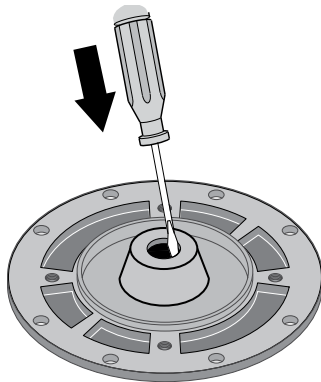


Figure 18 - Tap Out Seal

### INSTALLING NEW SEAL

Gaskets and o-rings are not interchangeable per models. Make sure to install the type of gasket or o-ring you removed.

1. Clean seal cavity in seal plate.
2. Sparingly wet outer edge of rubber cup on ceramic seat with liquid soap.
3. Put clean cardboard washer on seal face. The ceramic seal's polished face should be facing up. Firmly and squarely, press ceramic seal into cavity using only hand pressure.
4. If seal will not seat correctly:
  - Remove seal, placing polished side up on bench. Re-clean cavity and install as outlined in previous step.
  - If seal still does not seat properly after re-cleaning the cavity, place a cardboard washer over polished seal face and carefully press into place using a piece of standard 3/4 inch pipe as a press being careful not to scratch seal face."
5. Dispose of cardboard washer and recheck seal face to be sure it is free of dirt, foreign particles, scratches and grease.
6. Inspect shaft to be sure it is free of nicks and scratches.
7. Reassemble pump body half to motor flange. **BE SURE** it is right side up.
8. Apply liquid soap sparingly (one drop is sufficient) to inside diameter of rotating seal member.
9. Slide rotating seal member (carbon face first) onto shaft until rubber drive ring hits shaft shoulder.

**NOTICE:** Be sure not to nick or scratch carbon face of seal when passing it over threaded shaft end or shaft shoulder. The carbon surface must remain clean or short seal life will result.

10. Hold motor shaft with 7/16" open end wrench on shaft flats and screw impeller onto shaft. **Be sure you do not touch capacitor terminals with body or any metal object.** Tightening impeller will automatically locate seal in correct position.

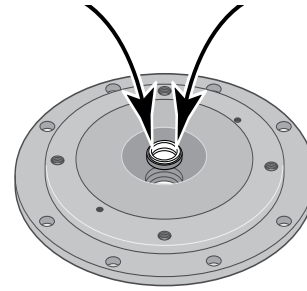


Figure 19 - Press in New Seal

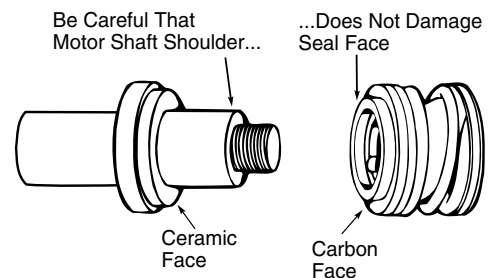


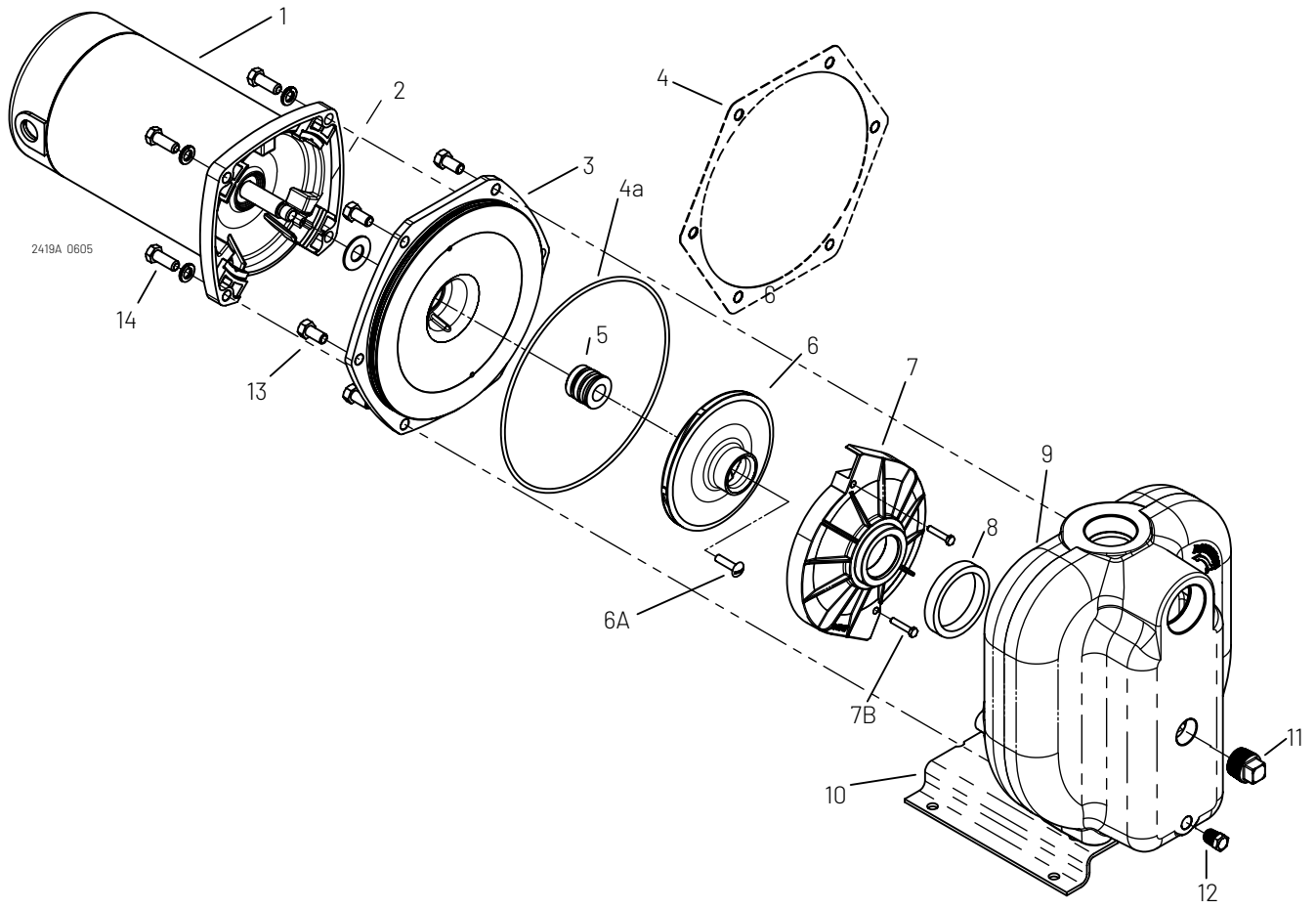
Figure 20 - Protect Seal Faces

11. Replace impeller screw (if used) by turning counterclockwise (left-hand thread) into end of shaft.
12. Remount diffuser on seal plate with two screws.
13. Follow instructions under "Pump Reassembly".

### PUMP REASSEMBLY

1. Install new gasket or O-ring. Note to replace with using the same as the pump was originally manufactured with.
2. Slide motor/seal plate assembly into pump body. Secure with capscrews.
3. Replace base mounting bolts.
4. Replace motor wiring; close draincock.
5. Prime pump according to instructions. See "Operation."
6. Check for leaks.

# REPAIR PARTS



# REPAIR PARTS

Key No.	Part Description	Model Number	
		FP5242-00 1-1/2 HP	FP5252-00 2 HP
1	Motor, 115/230V, 1 Phase	J218-601PKG	—
1	Motor, 115/230V, 1 Phase	—	J218-883APKG
2	Water Slinger	17351-0009	17351-0009
3	Seal Plate	C3-155	C3-117
4	Gasket - Seal Plate	C20-86	C20-87
4A	O-Ring	25276	34516
5	Shaft Seal	U109-6B	U109-6B
6	Impeller	C105-92PCB	C105-214PDA
6A	Impeller Screw (1 Phase)	—	C30-14SS
7	Diffuser	C101-276P	C101-182
7B	Screw 1/4-20 x1" Lg.(2)	U30-696SS	—
7B	Machine screw 8-32x7/8" Lg. (2)	—	U30-53SS
8	Diffuser Ring	C21-10	C21-2
9	Pump Body Assembly	C176-49B	C76-50
10	Base	U4-5	U4-5
11	Pipe Plug 3/4" NPT - Sq. Hd.	U78-60ZPS	U78-60ZPS
12	Plug 1/4" NPT Hex. Hd.	U78-941ZPV	U78-941ZPV
13	Capscrew 3/8-16x3/4" Lg(6)	U30-72ZP	—
13	Capscrew 5/16-18x3/4" Lg.(8)	—	U30-60ZP
14	3/8-16x1" Capscrew (4)	U30-74ZP	U30-74ZP
•	Lockwasher 3/8" (4)	U43-12ZP	—
•	Lockwasher - 3/8" (2)	U43-12ZP	U43-12ZP
•	Capscrew 3/8-16x5/8" Lg(2)	U30-71ZP	U30-71ZP

• Not illustrated

NOTE: Quantity is one unless otherwise noted in parenthesis ( ).

# TROUBLESHOOTING CHART

Symptom	Possible Cause(S)	Corrective Action
Motor will not run	Disconnect switch is off	Be sure switch is on
	Fuse is blown	Replace fuse
	Starting switch is defective	Replace starting switch
	Wires at motor are loose, disconnected, or wired incorrectly	Refer to instructions on wiring. Check and tighten all wiring. <b>⚠ WARNING</b> Capacitor voltage may be hazardous. To discharge capacitor, hold insulated handle screwdriver <b>BY THE HANDLE</b> and short capacitor terminals together. Do not touch metal screwdriver blade or capacitor terminals. If in doubt, consult a qualified electrician.
Motor runs hot and overload kicks off	Motor is wired incorrectly	Refer to wiring instructions
	Voltage is too low	Check with power company. Install heavier wiring if wire size is too small (See Electrical section of this manual)
Motor runs but no water is delivered  Unscrew priming plug and make sure there is water in pump case.	Pump in new installation did not pick up prime through: 1. Check prime before looking for other causes. 2. Improper priming 3. Air leaks 4. Leaking foot valve	In new installation: 1. Unscrew priming plug and make sure there is water in pump case 2. Re-prime according to instructions 3. Check all connections on suction line 4. Replace foot valve
	Pump has lost prime through: 1. Check prime before looking for other causes. 2. Air leaks 3. Water level below suction of pump	In installation already in use: 1. Unscrew priming plug and make sure there is water in pump case 2. Check all connections on suction line and shaft seal 3. Lower suction line into water and re-prime. If receding water level in well exceeds suction lift, a deep well pump is needed
	Impeller is plugged	Clean impeller as per Cleaning/replacing Impeller procedures.
	Check valve or foot valve is stuck in closed position	Replace check valve or foot valve
	Pipes are frozen	Thaw pipes. Bury pipes below frost line. Heat pit or pump house
	Foot valve and/or strainer are buried in sand or mud	Raise foot valve and/or strainer above well bottom
Pump does not deliver water to full capacity	Leaking foot valve is causing lose of priming	Replace foot valve
	Water level in well is greater than 25 feet below suction of pump	A deep well jet pump may be needed
	Steel piping (if used) is corroded or limed, causing excess friction	Replace with plastic pipe where possible, otherwise with new steel pipe
	Offset piping is too small in size	Use larger offset piping

# WARRANTY

This Limited Warranty is effective June 1, 2011 and replaces all undated warranties and warranties dated before June 1, 2011. FLOTEC warrants to the original consumer purchaser ("Purchaser" or "You") that its products are free from defects in material and workmanship for a period of twelve (12) months from the date of the original consumer purchase. If, within twelve (12) months from the original consumer purchase, any such product shall prove to be defective, it shall be repaired or replaced at FLOTEC's option, subject to the terms and conditions set forth herein. Note that this limited warranty applies to manufacturing defects only and not to ordinary wear and tear. All mechanical devices need periodic parts and service to perform well. This limited warranty does not cover repair when normal use has exhausted the life of a part or the equipment.

The original purchase receipt and product warranty information label are required to determine warranty eligibility. Eligibility is based on purchase date of original product - not the date of replacement under warranty. The warranty is limited to repair or replacement of original purchased product only, not replacement product (i.e. one warranty replacement allowed per purchase). Purchaser pays all removal, installation, labor, shipping, and incidental charges.

For parts or troubleshooting assistance, DO NOT return product to your retail store - contact FLOTEC Customer Service at 800-365-6832.

Claims made under this warranty shall be made by returning the product (except sewage pumps, see below) to the retail outlet where it was purchased immediately after the discovery of any alleged defect. FLOTEC will subsequently take corrective action as promptly as reasonably possible. No requests for service will be accepted if received more than 30 days after the warranty expires. Warranty is not transferable and does not apply to products used in commercial/rental applications.

## SEWAGE PUMPS

DO NOT return a sewage pump (that has been installed) to your retail store. Contact FLOTEC Customer Service. Sewage pumps that have seen service and been removed carry a contamination hazard with them.

If your sewage pump has failed:

- Wear rubber gloves when handling the pump;
- For warranty purposes, return the pump's cord tag and original receipt of purchase to the retail store;
- Dispose of the pump according to local disposal ordinances.

## EXCEPTIONS TO THE TWELVE (12) MONTH LIMITED WARRANTY

Product	Warranty Period
FPOF360AC, FPOFDC, FPDM21SA, FPDM21HC	90 days
FPOS1775A, FPOS1790PCA, FPOS2400A, FPOS2450A, FPOS4100X, FP2800DCC, FPCP-20ULST, FPPSS3000, FPSC2150A, FPSC3150A, FPCI3350, FPCI5050, FPDC30, FPCC5030	2 Years
4" Submersible Well Pumps, FPOS3200A, FPOS3250A, FPOS6000A, FPSC1725X, FPSC2200A, FPSC2250A, FPSES2700A, FPSE3601A, FPPSS5000, FPSC3350A, FPZT7300, FPZT7350, FPZT7450, FPZT7550	3 Years
FP7100 Series Pressure Tanks, E100ELT, E3305TLT, E3375TLT, E5005TLT, E50TLT, E50VLT, E75STVT, E75VLT, FPSC3200A, FPSC3250A, FPSC4550A, FPSE9000	5 Years

## GENERAL TERMS AND CONDITIONS; LIMITATION OF REMEDIES

You must pay all labor and shipping charges necessary to replace product covered by this warranty. This warranty does not apply to the following: (1) acts of God; (2) products which, in FLOTEC's sole judgment, have been subject to negligence, abuse, accident, misapplication, tampering, or alteration; (3) failures due to improper installation, operation, maintenance or storage; (4) atypical or unapproved application, use or service; (5) failures caused by corrosion, rust or other foreign materials in the system, or operation at pressures in excess of recommended maximums.

This warranty sets forth FLOTEC's sole obligation and purchaser's exclusive remedy for defective products.

FLOTEC SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER.

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Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, 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.

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