

OWNER'S MANUAL



Series: PFSWCPC50

***1/2 HP • 3450 RPM • 60 Hz
Submersible Sewage Pump***



Power-Flo Pumps & Systems

a Power-Flo Technologies company

General Safety Information

Before installation, read the following instructions carefully. Failure to follow instruction and Safety information could cause serious bodily injury, death and/or property damage. Each Power-Flo pump is individually factory tested to insure proper performance. Closely following these instructions will eliminate potential operating problems, assuring years of trouble-free service.

IMPORTANT - Power-Flo Pumps and Systems is not responsible for losses, injury or death resulting from failure to observe these safety precautions, misuse, abuse or misapplication of pumps or equipment.



⚠ DANGER Do not pump flammable or explosive liquids such as oil, gasoline, kerosene, ethanol, etc. Do not use in the presence

of flammable or explosive vapors. Using this pump with or near flammable liquids can cause an explosion or fire, resulting in property damage, serious personal injury, and/or death.



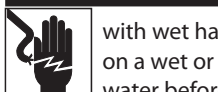
⚠ WARNING ALWAYS disconnect the power to the pump before servicing.



⚠ CAUTION Release all pressure and drain all water from the system before servicing any component.



⚠ DANGER Do not touch the motor housing during operation. The motor is designed to operate at high temperatures. Do not disassemble the motor housing.



⚠ DANGER Do not handle the pump or pump motor with wet hands or when standing on a wet or damp surface, or in water before disconnect the power.



⚠ WARNING Secure the discharge line before starting the pump. An unsecured discharge line will whip, possibly causing personal injury, and/or property damage.



⚠ DANGER Extension cords may not deliver sufficient voltage to the pump motor. Extension cords present a life threatening safety hazard if the insulation becomes damaged or the connection ends fall into water. The use of an extension cord to power this pump is not permitted.



⚠ WARNING Wear safety goggles at all times when working with pumps.



⚠ WARNING These units are designed for use on 115 volts (single phase), 60 Hz, and equipped with an approved 3-conductor cord and 3-prong grounded plug. Do not remove the ground pin under any circumstances. The 3-prong plug must be directly inserted into a properly installed and grounded 3-prong, grounding-type receptacle. Do not use this pump with a 2-prong wall outlet. Replace the 2-prong outlet with a properly grounded 3-prong receptacle (a GFCI outlet) installed in accordance with the National Electrical Code and local codes and ordinances. All wiring should be performed by a qualified electrician.



⚠ WARNING Protect the electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking the cord. Do not use damaged or worn cords.



⚠ WARNING Failure to comply with the instruction and designed operation of this unit may void the warranty. **ATTEMPTING TO USE A DAMAGED PUMP** can result in property damage, serious personal injury, and/or death.



⚠ WARNING Ensure that the electrical circuit to the pump is protected by a 15 Amp, fuse or circuit breaker.



Do not lift the pump by the power cord.



⚠ CAUTION Know the pump and its applications, limitations, and potential hazards.

IMPORTANT! - Secure the pump to a solid base. This will aid in keeping the pump in a vertical orientation. This is critical in keeping the pump operating at maximum efficiency. It will also help prevent the pump from clogging resulting in premature failure.

IMPORTANT! - Periodically inspect the pump and system components to ensure the pump suction screen is free of mud, sand, and debris. Disconnect the pump from the power supply before inspecting.



⚠ WARNING Follow all local electrical and safety codes, along with the National Electrical Code (NEC). In addition, all Occupational Safety and Health Administration (OSHA) guidelines must be followed.



⚠ WARNING The motor of this pump has a thermal protector that will trip if the motor becomes too hot. The protector will reset itself once the motor cools down and an acceptable temperature has been reached. The pump may start unexpectedly if it is plugged in.



⚠ CAUTION Ensure the electrical power source is adequate for the requirements of the pump.

IMPORTANT! - This pump is made of high-strength, corrosion-resistant materials. It will provide trouble-free service for a long time when properly installed, maintained, and used. However, inadequate electrical power to the pump, dirt, or debris may cause the pump to fail.



WARNING:
CANCER AND REPRODUCTIVE HARM-
WWW.P65WARNINGS.CA.GOV

* Power-Flo is a registered trademark of Power-Flo Technologies Inc.
Alteration Rights Reserved. 8/15, 4/16, 9/2020, 1/2021



Power-Flo Pumps & Systems
a Power-Flo Technologies company

Power-Flo Pumps & Systems • 877-24PUMPS • www.powerflopumps.com

Specifications

Features:

Submersible sewage pump designed for typical raw sewage and typical septic tank/effluent applications.

- **DISCHARGE:** 2" NPT Female, Vertical
- **LIQUID TEMPERATURE:** 32°-131°F
- **MOTOR HOUSING:** Cast Iron.
- **IMPELLER:** Corrosion-resistant, reinforced Thermoplastic
- **PUMP BASE:** Cast Iron.
- **SHAFT:** Stainless Steel
- **HARDWARE:** Stainless steel
- **GASKET:** Rubber
- **SEAL:** Lip, Rubber and Stainless Steel
- **UPPER BEARING:** Single row, ball, oil lubricated
- **LOWER BEARING:** Single row, ball, oil lubricated
- **POWER CORD:** 115V - SJTW, 18AWG/3C Cord with plug, P/N: 10Ft. - PFL183062
- **MOTOR:** Energy efficient Permanent Split Capacitor (PSC), Oil filled, Class B insulation, Continuous duty (water depth must be at least 6" to prevent motor from overheating), Auto reset thermal overload protector, Circuit requirements; 115V - 15 AMPS.
- **LEVEL CONTROL:** Wide Angle Tethered, Mechanical, Normally Open (N/O), Reinforced thermoplastic, 115V-SJOW 18AWG/2C, 10 Ft. cord w/Piggy-back plug, On point - 15.1", Off point - 6.8" P/N: 10Ft. - PFTFS10D1810P1
- **WARRANTY:** 3 year



Submersible Sewage Pump 2" Discharge, 2" Spherical Solids Wide Angle Tethered Float

MODEL	HP	Hz	Volts/Ph	RPM	FL AMPS	Cord Length	Wt.
PFSWCPC50181081T10	1/2	60	115/1	3450	7.4	10 ft	23.3 lbs

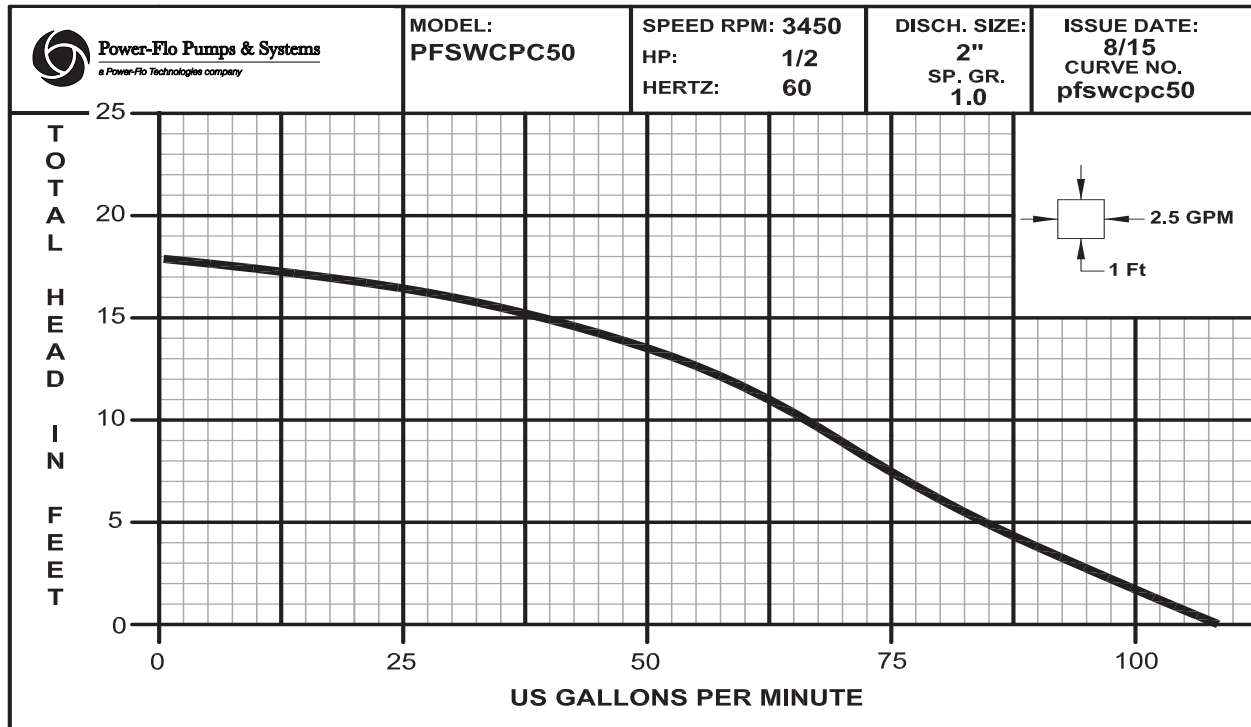
HEAD in Ft	0 Ft	5 Ft	10 Ft	15 Ft	Max Lift	Max Pressure
FLOW Gallon/Minute	108	83	70	40	18 Ft	7.9 psi
FLOW Gallon/Hour	6500	5000	4200	2400		

PF	TYPE U, SP, SW	Motor Housing P, C	Impeller Type P, C	Suction Plate Type P, C	Motor HP 25, 33, 50, 75, 1	30	50	Voltage 1 or 2	Float Switch Type M, F, T	Cord Length 10, 15
Power-Flo	U = Utility SP = Sump Pump SW = Sewage Pump	P = Plastic C = Cast Iron	P = Plastic C = Cast Iron	P = Plastic C = Cast Iron	25 = 1/4 HP 33 = 1/3 HP 50 = 1/2 HP 75 = 3/4 HP 1 = 1 HP	Shut Off Head (ft)	Max Flow (Gal)	1 = 115 V 2 = 230V	M = Manual F = Fixed Vertical T = Tethered	10 Ft 25 Ft

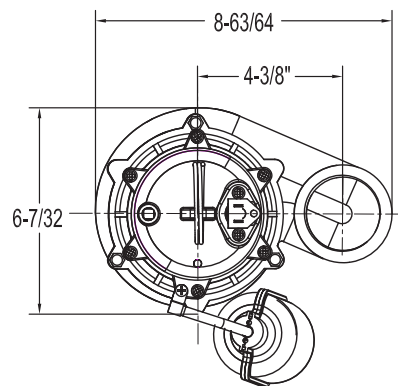
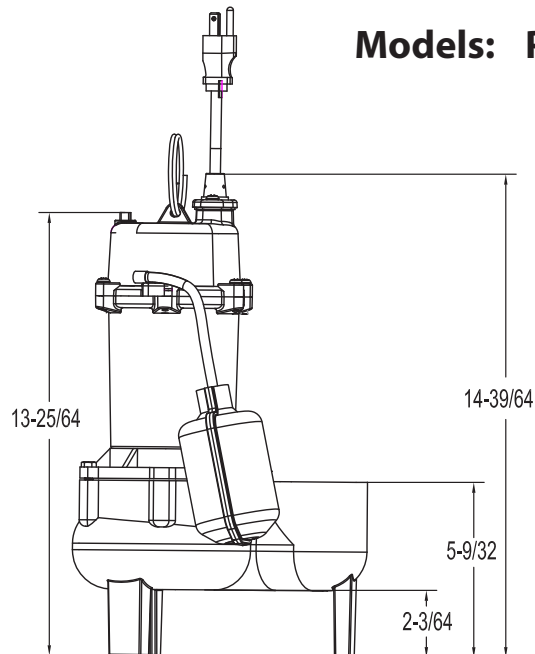
EXAMPLE: PFSWCPC3330501T10 - Power-Flo Pumps - Sump Pump - Cast Iron Motor Housing - Plastic Impeller - Cast Iron Suction Plate - 1/3HP - 30" Shut Off Head - 50GPM Max Flow - 115 Volt - Tethered Float - 10' Cord



Performance & Dimensions



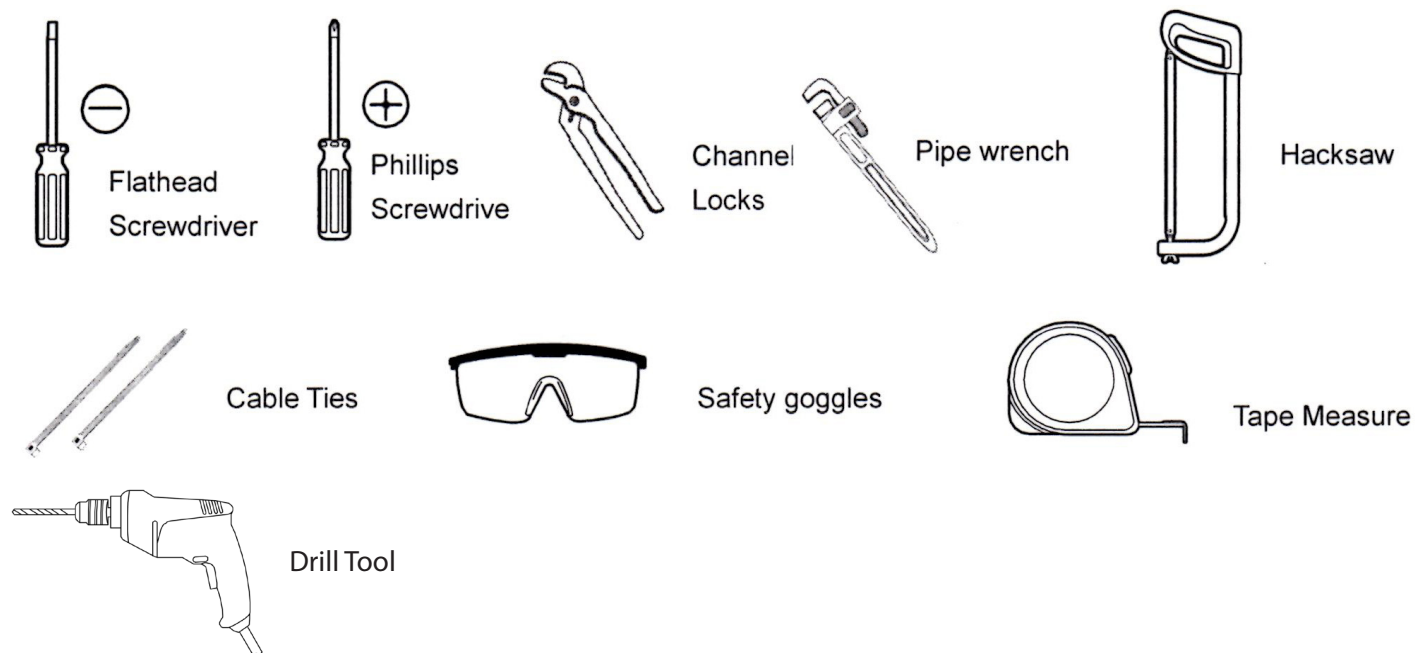
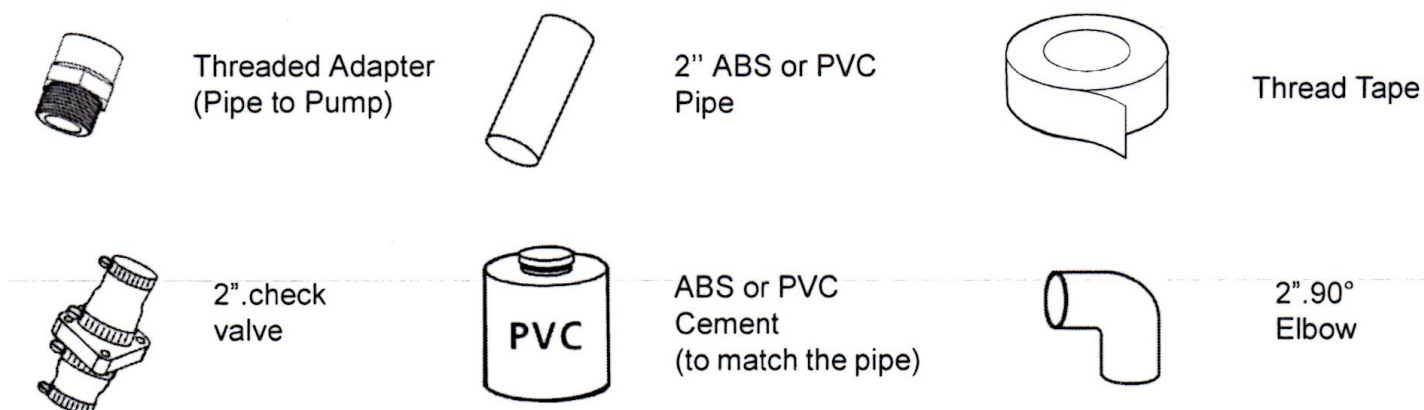
Models: PFSWCPC50181081T10



Pre-Installation**APPLICATION**

This submersible sewage pumps and designed for pumping sewage, effluent, wastewater or flooded water with up to 2 inch solids.

The pump is built with overload thermal protections and auto reset. The pump is equipped with a 3-prong grounding-type power cord and tethered float switch. This pump operates automatically. Ball bearings on motor shafts never need lubrication.

TOOLS REQUIRED**MATERIALS REQUIRED (NOT INCLUDED)**

Minimum Sump basin: 18 in. diameter, 30 in. depth



Installation

INSTALLATION

NOTICE: Install pump on a hard, level surface (cement, asphalt, etc.). Never place pump directly on earth, clay or gravel surfaces.

Piping – (2" or Less Solids)

In any case, piping must not be smaller than pump discharge. When installed in a sewage system, pipe must be capable of handling semi-solids of at least 2" diameter. The rate of flow in the discharge pipe must keep any solids present in suspension in the fluid. To meet minimum flow requirements, the minimum pipe size is 2".

Use a 2" swing check valve in pump discharge to prevent backflow of liquid into sump basin. Check valve should be a free flow valve that will easily pass solids.

NOTICE: For best performance of check valve when handling solids, do not install it with discharge angled more than 45° above the horizontal. Do not install check valve in a vertical position as solids may settle in valve and prevent opening on startup.

Drill a 3/16" hole in discharge pipe about 1"-2" above pump discharge connection (but below check valve) to prevent airlocking the pump.

Electrical



WARNING: Risk of electric shock. Can shock, burn or kill. When installing, operating, or servicing this pump, follow safety instructions listed below.

- Step 1. DO NOT splice the electrical power cord.
- Step 2. DO NOT allow electrical cord plug to be submerged.
- Step 3. DO NOT use extension cords. They are a fire hazard and can reduce voltage sufficiently to prevent pumping and/or damage motor.
- Step 4. DO NOT handle or service pump while it is connected to power supply.
- Step 5. DO NOT remove grounding prong from plug or modify plug. To protect against electrical shock, the power cord is a three-wire conductor and includes a 3-prong grounded plug. Plug pump into a 3-wire, grounded, grounding type receptacle. Connect pump according to electrical codes that apply.

For automatic operation, plug pump into an automatic float switch or pump controller. Pump will run continuously when plugged directly into an electrical outlet. Connect or wire pump to an individual branch circuit with no other outlets or equipment in the circuit.

AUTOMATIC - Plug the pump power cord plug into the piggy-back switch plug outlet, and then plug the switch plug into a 115V GFCI power outlet for automatic operation. The pump will start operating if the float switch moves over the top of the pump. The water will be pumped out. When the water lowers to a certain level, the float switch will turn off the pump.

MANUAL - Plug the pump power cord plug into a 115V GFCI power outlet directly for manual operation. Pump will start operating once it is plugged into the GFCI outlet and water will drain out. When water is drained out, you must unplug the pump.

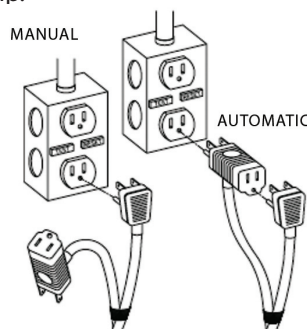


Figure 1 - For 115 Volt

Size fuses or circuit breakers according to chart below.

Fuse Data

MODEL	HP	VOLTAGE	Individual Branch Circuit Required (Amps)
PFSWCPC50181081T10	1/2	115	15

OPERATION

NOTICE: Do not allow pump to run in a dry sump. It will void the warranty and may damage the pump. An automatic overload protector in the motor will protect motor from burning out due to overheating / overloading.

When motor cools down, overload protector will automatically reset and start motor. If overload trips frequently, check for cause. It could be a stuck impeller, wrong/low voltage, or electrical failure in motor. If an electrical failure in the motor is suspected, have it serviced by a competent repairman.



Power-Flo Pumps & Systems
a Power-Flo Technologies company

Power-Flo Pumps & Systems • 877-24PUMPS • www.powerflo pumps.com

Troubleshooting

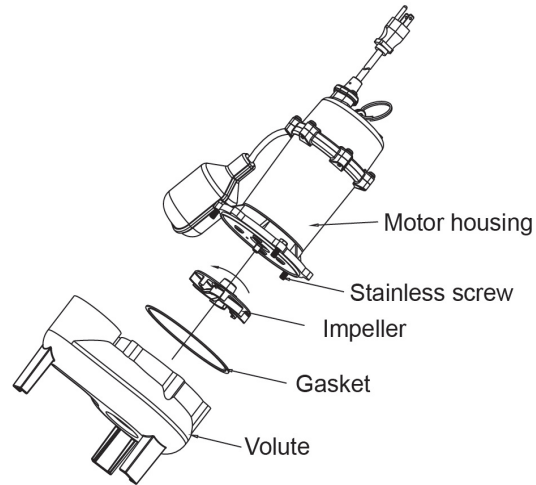
Pump is permanently lubricated. No oiling or greasing is required.

General



WARNING: Risk of electric shock. Can shock, burn or kill.

- Do not lift pump by power cord.
- Before removing pump from basin for service, always disconnect electrical power to pump and control switch.
- Submerge pump in a disinfectant solution (bleach) for at least one hour before disassembling pump.
- **Note:** Pump is oil filled, to void the oil leakage don't disassemble.
- Unscrew the stainless screws, and remove the volute/gasket.
- Use a flathead screwdriver to hold the shaft, then turn the impeller counterclockwise to release the impeller.
- Remove debris from around the shaft and on/under the impeller.
- Reassemble the pump.



Replacement Parts:

Wide Angle Level Control: P/N: 10Ft. - PFTFS10D1810P1

P/N: 20Ft. - PFTFS10D1820P1

Vertical Level Control: P/N: 10Ft. - PFEVS10D1810P1

P/N: 20Ft. - PFEVS10D1820P1

Power Cord: P/N: 10Ft. - PFL183062, P/N: 20 Ft. - PFL181061



Risk of electric shock. Always disconnect the pump from the power source before handling inspections or repairs.

Symptom	Possible Cause(s)	Corrective Action
Pump does not start or run	<ol style="list-style-type: none"> 1. The fuse is blow. 2. The breaker is tripped. 3. The plug is disconnected. 4. The plug is corroded. 5. Thermal overload. 6. Clogged impeller. 7. Motor failed 8. Float failed 9. Water level too low 10. Tangled switch 	<ol style="list-style-type: none"> 1. Replace the fuse 2. Reset the breaker 3. Secure the plug 4. Clean the plug prongs 5. Unplug for 30 minutes, then plug in 6. Remove the blockage 7. Replace pump 8. Replace switch 9. Pump will not turn on unless water level is over the pump cover and the float switch turns upside down 10. Reposition the pump and make sure switch moves freely
Pump operates but pumps little or no water	<ol style="list-style-type: none"> 1. Debris caught in impeller or pipe 2. Check valve stuck or installed backward 3. Anti-airlock hole blocked 4. Impeller loose on shaft 5. Impeller broken 	<ol style="list-style-type: none"> 1. Clean out debris. 2. Inspect check valve and make sure it's properly installed 3. Remove the blockage 4. Reassemble impeller 5. Replace impeller
Pump starts and stops too often	<ol style="list-style-type: none"> 1. Backflow of water from piping, check valve leaking 2. Float switch failed 	<ol style="list-style-type: none"> 1. Replace check valve 2. Replace switch
Pump will not shut off	<ol style="list-style-type: none"> 1. Defective float switch 2. Float obstruction 	<ol style="list-style-type: none"> 1. Replace switch 2. Remove obstruction

NOTE: Power-Flo Pumps & Systems assumes no responsibility for damage or injury due to disassembly in the field. Disassembly of the pumps or supplied accessories other than at Power-Flo Pumps & Systems or its authorized service centers, automatically voids warranty.



3 YEAR WARRANTY

Manufacturer warrants, to the purchaser and subsequent owner during the warranty period, new pump product to be free from defects in material and workmanship under normal use and service, when properly used and maintained, for a period of 3 years from date of sale. The date of sale shall be determined by a dated sales receipt noting the model and serial number of the pump. The dated sales receipt must accompany the returned pump if the date of the return is more than 3 years from the date of manufacturer. Product will be repaired, replaced or remanufactured at Manufacturer's option. No allowance will be made for shipping charges, damages, labor or other charges that may occur due to product failure, repair or replacement. This warranty does not apply to and there shall be no warranty for any material or product that has been disassembled without prior approval of Manufacturer, subjected to misuse, misapplication, neglect, alteration, accident or act of God; that has not been installed, operated or maintained in accordance with Manufacturer's installation instructions; that has been exposed to outside substances including but not limited to the following: sand, gravel, cement, mud, tar, hydrocarbons, hydrocarbon derivatives (oil, gasoline, solvents, etc.), or other abrasive or corrosive substances, wash towels or feminine sanitary products, etc. in all pumping applications. The warranty set out in the paragraph above is in lieu of all other warranties expressed or implied; and we do not authorize any representative or other person to assume for us any other liability in connection with our products.

Contact Manufacturer at: 1-877-24PUMPS or www.powerflopumps.com, Attention: Customer Service Department, to obtain any needed repair or replacement of part(s) or additional information pertaining to our warranty. MANUFACTURER EXPRESSLY DISCLAIMS LIABILITY FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OR BREACH OF EXPRESSED OR IMPLIED WARRANTY; AND ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY SHALL BE LIMITED TO THE DURATION OF THE EXPRESSED WARRANTY.

Some states do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you. 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. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

