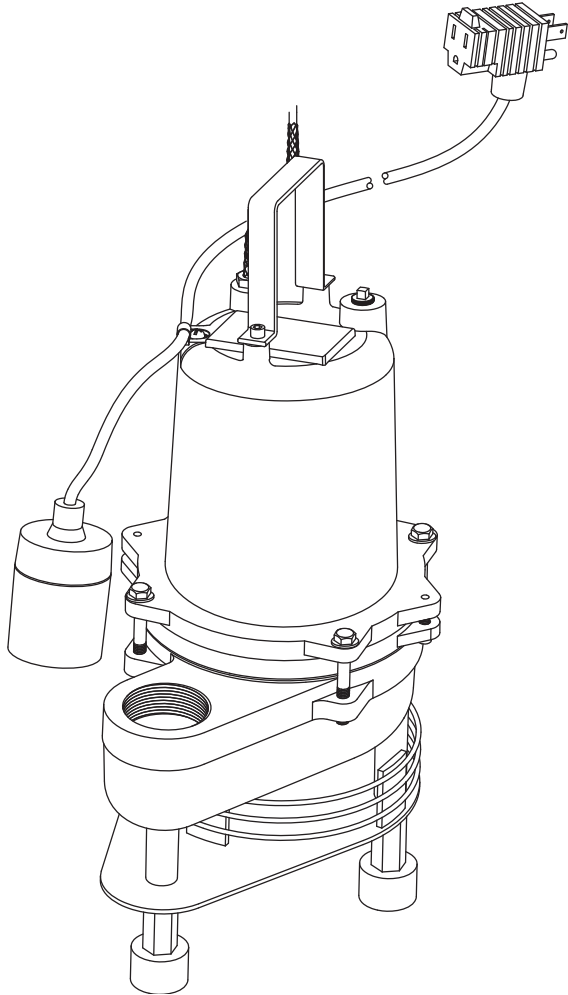


# INSTALLATION, SERVICE & PARTS MANUAL



**Series: PFS411HTCE**

**0.4 HP • 1750 RPM • 60 Hz  
Submersible Effluent, Sump  
& Sewage Pump  
High Temperature**



## 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.

**⚠ DANGER** "Danger" indicates an imminent hazardous situation which, if not avoided, WILL result in death or serious injury.

**⚠ WARNING** "Warning" indicates an imminent hazardous situation which, if not avoided, MAY result in death or serious injury.

**⚠ CAUTION** "Caution" indicates an potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

**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.**



**ALL RETURNED PRODUCTS MUST BE CLEANED, SANITIZED, OR DECONTAMINATED PRIOR TO SHIPMENT, TO INSURE EMPLOYEES WILL NOT BE EXPOSED TO HEALTH HAZARDS IN HANDLING SAID MATERIAL. ALL APPLICABLE LAWS AND REGULATIONS SHALL APPLY.**

**⚠ WARNING** Installation, wiring, and junction connections must be in accordance with the National Electric Code and all applicable state and local codes. Requirements may vary depending on usage and location.

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**⚠ WARNING** Installation and servicing is to be conducted by qualified personnel only.

**⚠ DANGER** Keep clear of suction and discharge openings. **Do not** insert fingers in pump with power connected.

**⚠ WARNING** Always wear eye protection when working on pumps. Do not wear loose clothing that may become entangled in moving parts

**⚠ DANGER** Pumps build up heat and pressure during operation. Allow time for pumps to cool before handling or servicing.

**⚠ DANGER** This pump is **not** intended for use in swimming pools or water installations where human contact with pumped fluid. Pumps when used as a decorative water fountain pump **MUST** be used in circuit protected by a Ground Fault Interrupter.

**⚠ DANGER** Risk of electric shock. To reduce risk of electric shock, always disconnect pump from power source before handling. **Lock out power & tag.**

**⚠ WARNING** For PFS411/421 **Do not** use in water over 104°F, the PFS411HT is designed for 200°F. **Do not** exceed manufactures recommended maximum performance, as this could cause the motor to overheat.

**⚠ DANGER** **Do not** lift, carry or hang pump by the electrical cables. Damage to the electrical cables can cause shock, burnes or death. **Never** handle connected power cords with wet hands. Use appropriate lifting device.

**⚠ WARNING** Sump and sewage pumps often handle materials which could cause illness or disease. wear adequate protective clothing when working on a used pump or piping. Never enter a basin after it has been used.

**⚠ DANGER** Failure to permanently ground the pump, motor and controls before connecting to power can cause shock, burns or death.

**⚠ DANGER** These pumps are **NOT** to be installed in locations **classified as hazardous** in accordance with the National Electric Code, ANSI/NFPA 70.

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



**IMPORTANT!** Prior to installation, record Model Number, MFG Date, Amps, Voltage, Phase and HP, from pump name plate for future reference. Also record the Voltage and Current Readings at Startup:

1 Phase Models	
Amps:	Volts:

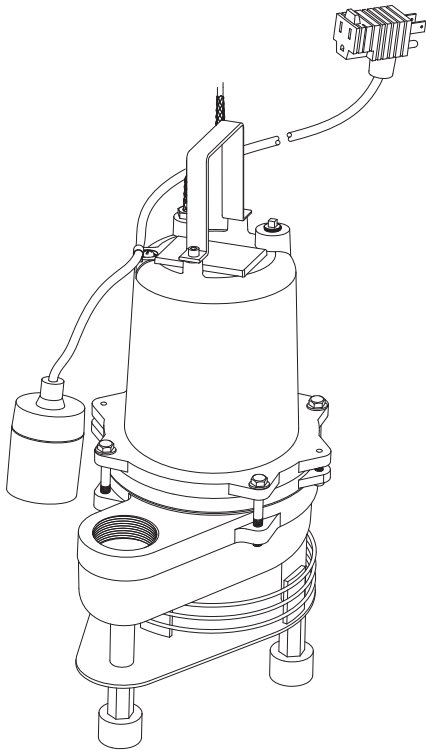
Model Number: \_\_\_\_\_

MFG Date: \_\_\_\_\_

PHASE: \_\_\_\_\_ HP: \_\_\_\_\_

POWER-FLO Pumps & Systems	
Model Number	PFS411HTCE
Serial #	_____
MFG Date	_____
Voltage	115v Phase 1.0
60 Hz	HP 4/10
877-24 PUMPS www.powerflopumps.com	

**Specifications - High Temp**



**Series: PFS411HTCE**

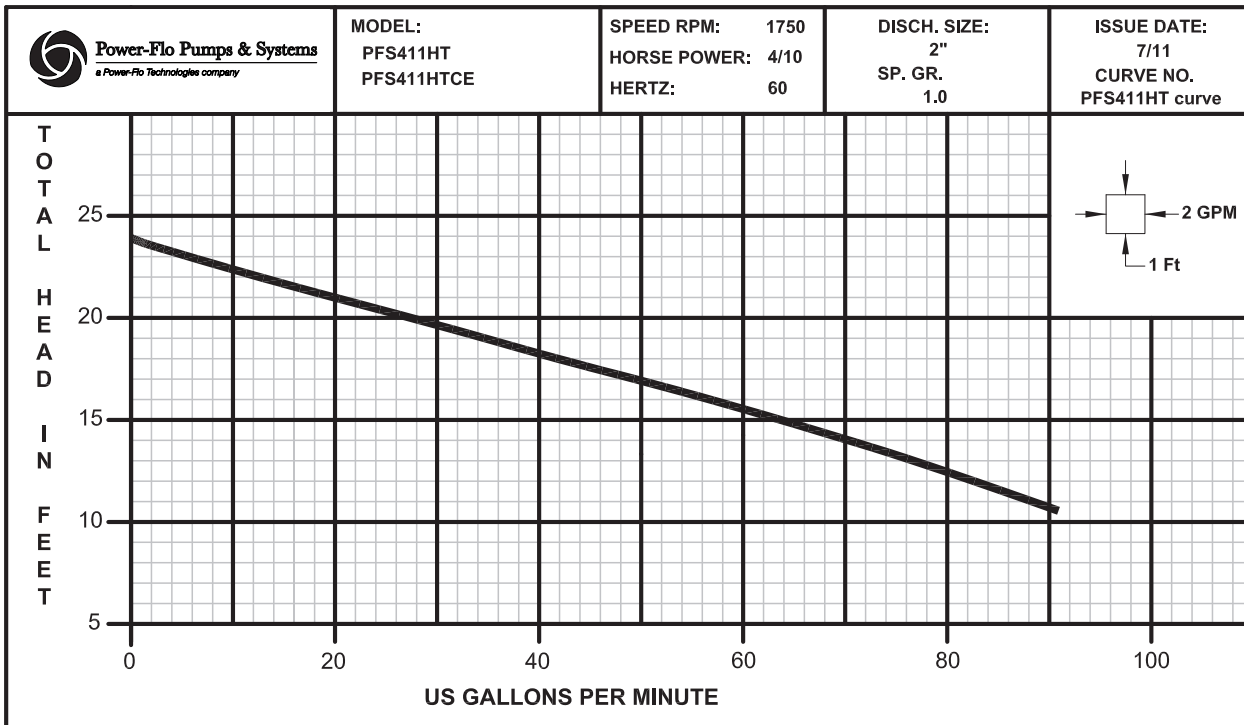
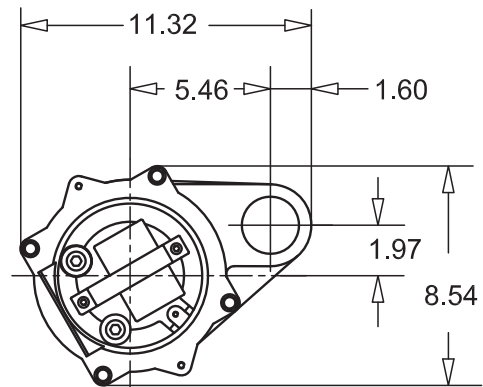
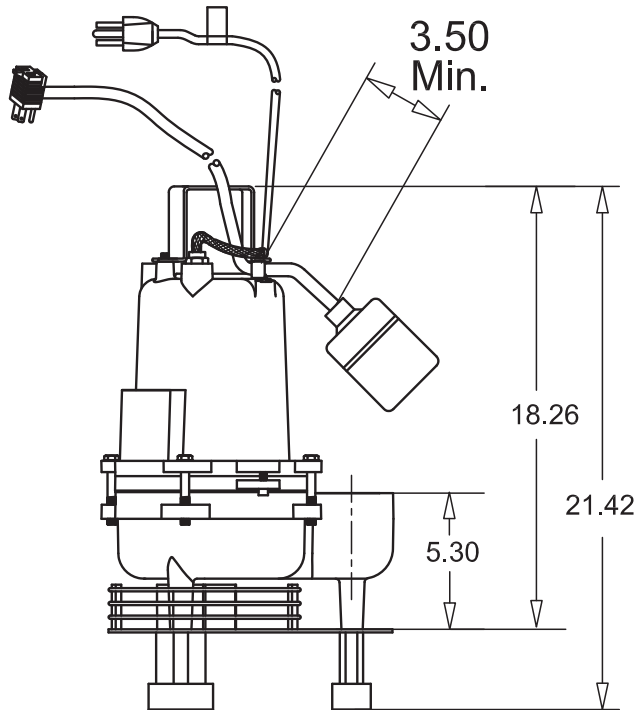
**4/10 HP • 1750 RPM • 60 Hz  
High Temperature  
Submersible Sewage Pump**

<b>DISCHARGE</b>	2" NPT, Female, Vertical
<b>LIQUID TEMPERATURE</b>	200°F (93°C) Continuous High Temperature
<b>SOLIDS HANDLING</b>	1/2" Solids through strainer. 2" without strainer
<b>VOLUTE</b>	Cast Iron, Class 30
<b>MOTOR HOUSING</b>	Cast Iron, Class 30
<b>IMPELLER</b>	2 Vane, open with pump out vanes on back side Material: Cast Iron, Class 30
<b>SHAFT</b>	Stainless Steel
<b>SEAL PLATE</b>	Cast Iron, Class 30
<b>SQUARE RINGS</b>	Buna-N
<b>HARDWARE</b>	Stainless Steel
<b>PAINT</b>	Powder Coated - Industrial Grade
<b>SEAL</b>	Inboard Single Mechanical, Oil Filled , Material: Type 21, Silicon Carbide/Buna-N Secondary Exclusion Seal
<b>POWER CORD</b>	15 Ft. Cord, Plug on 115 Volt, Pressure Grommet for Sealing and Kellum Strain Relief
<b>MOTOR</b>	Oil Filled, Squirrel Cage Induction Class H Insulation, Vacuum Pressure Impregnated (VPI)
<b>SINGLE PHASE</b>	Permanent Split Capacitor (PSC), Includes Overload Protection in Motor: 115v, 50A, Trip Off Temp. 293°F (145°C), closing Temp. 226°F (108°C).
<b>UPPER BEARING</b>	Single Row, Ball, Oil Lubricated
<b>LOWER BEARING</b>	Single Row, Ball, Oil Lubricated
<b>SLUDGE STRAINER</b>	Bar Strainer with 3" extended feet
<b>LEVEL CONTROL</b>	Wide Angel, High Temperature Mechanical Float. 15Ft. cord with piggy-back plug. Normally Open (N/O)

MODEL	HP	Hz	Volts/ Ph	RPM	Full Load Amps	Locked Rotor Amps	NEMA Start Code	Winding Resistance MAIN -- START	Cord Type	Cord Size	Cord O.D.
PFS411HTCE	4/10	60	115/1	1750	10.0	24.5	N	1.6 -- 18.5	SJOOW	16/3	0.325



**Dimensions & Performance - High Temp**



Receiving & Installation

**Receiving Inspection**

Upon receiving the pump, it should be inspected for damage or shortages. If damage has occurred, file a claim immediately with the company that delivered the pump. If the manual is removed from the packaging, do not lose or misplace.

**Storage**

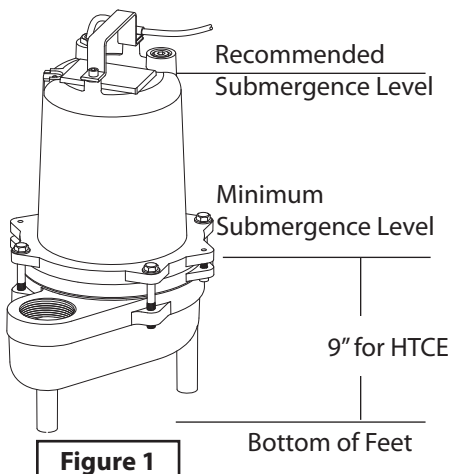
Any product that is stored for a period longer than six (6) months from the date of purchase should be bench tested prior to installation. A bench test consists of, checking the impeller to assure it is free turning and a run test to assure the motor (and switch if provided) operate properly. Do not pump out of liquid.

**Controls**

Manual models require a separate approved pump control device or panel for automatic operation. Be sure the electrical specification of the control selected properly match the electrical specifications of the pump.

**Submergence**

The pump should always be operated in the submerged condition. The minimum sump liquid level should never be less than above the pump's volute (See Figure 1).



**Liquid Level Controls**

**Typical Discharge Pipe Mounted:**

Refer to Figure 2 below which shows a typical installation of a 1 phase 115 volt pump using a level control mounted to the discharge piping with a piggy-back plug. The level control should have adequate clearance so it cannot hang up in it's swing and that the pump is completely submerged when the level control is in the "Off" mode. By adjusting the cord tether the control level can be changed.

**Typical Installation with Wide Angle Level Control**

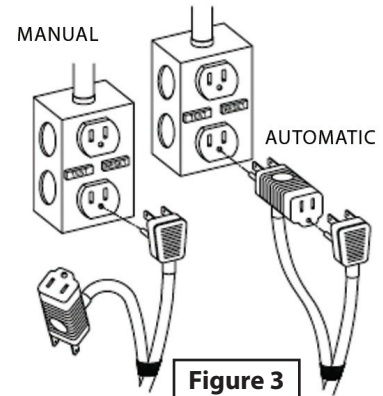
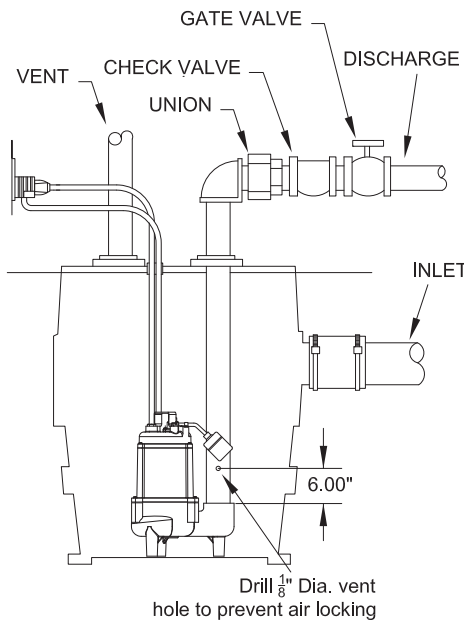


Figure 3

- Automatic:** Plug float cord into GFI outlet, then plug pump cord into float cord.
- Manual:** Plug pump cord directly into GFI outlet.

**Level Control Basic Instructions:**

Plug the level control plug into the GFI receptacle, then plug the pump into the piggy-back plug (See Figure 3). One cycle of operation should be observed, so that any potential problems can be corrected.

It is recommended that the level control float should be set to insure that the liquid in the sump never drops below the top of the motor housing or a minimum level of 6 inches (9 inches on HTCE) above the basin floor.

**Installation**

These pumps are recommended for use in a sump or basin. The sump or basin shall be sealed and vented in accordance with local plumbing codes. ***This pump is designed to pump effluent or wastewater, nonexplosive and noncorrosive liquids and shall NOT be installed in locations classified as hazardous in accordance with the National Electrical Code (NEC) ANSI/NFPA 70 or Canadian Electric Code (CEC).*** The pump should never be installed in a trench, ditch, or hole with a dirt bottom. The legs will sink into the dirt and the suction will become plugged.

## Installation & Service

The installation should be at a sufficient depth to ensure that all plumbing is below the frost line. If this is not feasible, remove the check valve and size the basin to accommodate the additional backflow volume.

### Discharge Piping

Discharge piping should be as short as possible and sized no smaller than the pump discharge. **Do not reduce the discharge pipe size below that which is provided on the pump.** Both a check valve and a shut-off valve are recommended for each pump. The check valve is used to prevent backflow into the sump. The shut-off valve is used to manually stop system flow during pump servicing.

### Electrical Connections

#### Power cable:

The power cable mounted to the pump must not be modified in any way except for shortening to a specific application. Any splice between the pump and the control panel must be made in accordance with the electric codes. It is recommended that a junction box, if used, be mounted outside the sump or be of at a minimum Nema 4 construction if located within the wet well. **DO NOT USE THE POWER CABLE TO LIFT PUMP.**

Always rely upon a Certified Electrician for installation.

#### Overload Protection:

**Single Phase** - The stator in-winding overload protector used is referred to as an inherent overheating protector and operates on the combined effect of temperature and current.

This means that the overload protector will trip out and shut the pump off if the windings become too hot, or the load current passing through them becomes too high.

**IMPORTANT!** - The overload will then automatically reset and start the pump up after the motor cools to a safe temperature. In the event of an overload, the source of this condition should be determined and corrected immediately.



**WARNING! - DO NOT LET THE PUMP CYCLE OR RUN IF AN OVERLOAD CONDITION OCCURS!**

#### Wire Size:

If longer power cable is required consult a qualified electrician for proper wire size.

#### Pre-Operation

1. **Check Voltage and Phase** - Compare the voltage and phase information stamped on the pump name plate.
2. **Check Pump Rotation** - Improper motor rotation can result in poor pump performance and can damage the motor and/or pump. Incorrect rotation for Single-Phase pumps is unlikely. If the rotation is incorrect contact factory.
3. **Name Plate** - Record the information from the pump name plate to drawing in front of manual for future reference.

4. **Insulation Test** - An insulation (megger) test should be performed on the motor. Before the pump is put into service. The resistance values (ohms) as well as the voltage (volts) and current (amps) should be recorded.
5. **Pump-Down Test** - Be sure pump has been properly wired, lowered into the basin, sump or lift station, check the system by filling with liquid and allowing the pump to operate through its pumping cycle. The time needed to empty the system, or pump-down time along with the volume of water, should be recorded.

### Maintenance

No lubrication or maintenance is required. Perform the following checks when pump is removed from operation or when pump performance deteriorates:

- a). Inspect motor chamber for oil level and contamination.
- b). Inspect impeller and body for excessive build-up or clogging.
- c). Inspect motor and bearings.
- d). Inspect seal for wear or leakage.

### Servicing

NOTE: Item numbers in ( ) refer to Figure 5.

**Cooling Oil** - Anytime the pump is removed from operation, the cooling oil in the motor housing should be checked visually for oil level and contamination. To check oil, set unit upright. Remove pipe plug (16) from housing (21). With a flashlight, visually inspect the oil in the housing to make sure it is clean and clear, light amber in color and free from suspended particles. Milky white oil indicates the presence of water. Oil level should be just above the motor when pump is in vertical position.



**Oil Testing**

- Drain oil into a clean, dry container by placing pump on it's side, remove pipe plug (16), from housing (21).
- Check oil for contamination using an oil tester with a range to 30 Kilovolts breakdown.
- If oil is found to be clean and uncontaminated (measuring above 15 KV. breakdown), refill the housing.
- If oil is found to be dirty or contaminated (or measures below 15 KV. breakdown), the pump must be carefully inspected for leaks at the shaft seal, cable assembly, square ring and pipe plug, before refilling with oil. To locate the leak, perform a pressure test.

After leak is repaired, dispose of old oil properly, and refill with new oil.

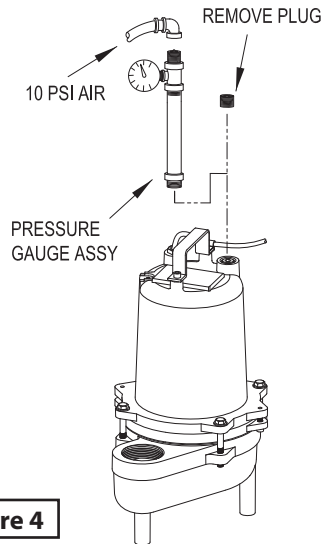
**Pressure Test (If oil has been drained)**

Remove pipe plug from housing. Apply pipe sealant to pressure gauge assembly and tighten into hole. Pressurize motor housing to 10 P.S.I. Use soap solution around the sealed areas and inspect joints for "air bubbles".

If, after five minutes, the pressure is still holding constant, and no "bubbles" are observed, slowly bleed the pressure and remove the gauge assembly. Replace oil. Leek must be located and repaired if pressure does not hold.

**Pressure Test (If oil has NOT been drained)** - Oil should be at normal level. Remove pipe plug from housing. Apply pipe sealant to pressure gauge assembly and tighten into hole. Pressurize motor housing to 10 P.S.I. Use soap solution around the sealed areas above the oil level and inspect joints for "air bubbles". For sealed areas below oil level, leaks will seep oil.

If, after five minutes, the pressure is still holding constant, and no "bubbles" /oil seepage is observed, slowly bleed the pressure and remove the gauge assembly. Replace oil. Leek must be located and repaired if pressure does not hold.



**Figure 4**



**Pressure builds up extremely fast, increase pressure by "TAPPING" air nozzle. Too much pressure will damage seal. DO NOT exceed 10 P.S.I.**



**Oil Replacement** - Set unit upright and refill with new cooling oil as per table below. Fill to just above motor, but below capacitor as an air space must remain in the top of the housing to compensate for oil expansion. Apply pipe thread compound to threads of pipe plug then assemble to housing.



**DO NOT overfill oil. Overfilling of housing with oil can create excessive and dangerous hydraulic pressure which can destroy the pump and create a hazard. Overfilling oil voids warranty.**



Cooling Oil - 40.6 oz Recommended Supplier/Grade	
BP	Enerpar SE100
Conoco	Pale Paraffin 22
Mobile	D.T.E. Oil Light
Shell Canada	Transformer-10
Texaco	Diala-Oil-AX

**Disassembly****Impeller, V-ring and Volute:**

1. Disconnect power.
2. Remove cap screws, or legs (29) and remove strainer (28).
3. Remove cap screw (23) and washers (24) vertically lift motor, housing and seal plate assembly from volute (1). Clean out volute (1) if necessary.
4. Inspect gasket (2) and replace if cut or damaged.
5. Clean and examine impeller (27), for cracks or breakage and replace if required. To remove impeller (27), place a flat screwdriver in the slot of the end of the shaft to hold the shaft stationary while unscrewing the impeller (27).
6. Check v-ring (25) and remove if damaged.

**Power Cord & Motor:**

7. Remove pipe plug (16) and drain oil from housing.
8. Remove gland nut (17B), from housing (21). Pull cord through and disconnect the wires from the terminals on power cord (17).
9. Remove screws (4) and lift motor housing (21) and stator from seal plate (29).



## Service

10. Remove o-ring (3), replace if damaged,

11. Check motor capacitor (11) with an Ohm meter by first grounding the capacitor by placing a screwdriver across both terminals and then removing screwdriver. Connect Ohm meter (set on high scale) to terminals. If needle moves to infinity ( $\infty$ ) then drifts back, the capacitor is good. If needle does not move or moves to infinity ( $\infty$ ) and does not drift back, replace capacitor (11).

12. Inspect motor winding for shorts and check resistance values. Check rotor for wear. If rotor or the stator windings are defective, the complete motor must be replaced.

### Shaft Seal:

13. Remove snap ring (6) from seal plate (29). Remove motor (7) from seal plate (29).

14. Remove seal's (22) rotating member, spring and retaining ring from seal plate. Examine all seal parts, if seal faces show signs of wear, uneven wear pattern, chips or scratches replace entire seal. **DO NOT interchange seal components, replace the entire shaft seal (22).**

If replacing seal, remove stationary by prying out with flat screwdriver.

### Bearings:

15. Examine lower bearing (5), and upper bearing (18), if replacement is required, remove by using a wheel puller.

## Reassembly

### Bearings:

1. Press bearings (5) and (18) onto shaft.



**IMPORTANT! - All parts must be clean before reassembly. Handle seal parts with extreme care. DO NOT damage lapped surfaces.**

### Shaft Seal:

2. Clean seal cavity in seal plate (29) and oil. Press seal's (22) stationary member firmly into seal plate (29), use a seal tool or pipe. Nothing should come in contact with the seal face except the seal tool. Be sure the stationary is in straight.

3. Place seal's retaining ring and spring onto shaft. Lightly oil (**Do not use grease**) shaft and inner surface of bellows.

4. With lapped surface of seal's rotating member facing outward, slide over shaft using a seal tool, being carefull not to damage seal face. Make sure spring is seated in retaining ring and spring is lined up on rotating member and not cocked or resting on bellows tail.

### Motor:

5. Slide motor (7) with bearings and seal parts (22) into seal plate (29) until bearing seats into seal plate. Install snap ring (6) into seal plate (29).

6. Place spring washer (19) onto bearing (18) and lower housing (21) while stringing motor leads through the cord entry bore, with motor onto seal plate (29).

7. Place screws (4) through seal plate (29) into housing (21) and **torque to 10 ft-lbs.**

### Power Cord:

8. Check power cord (17) for cracks or damage and replace if required. Reconnect motor leads to the underside of the terminal holder.

9. Place power cord assembly (17) with nylon housing (17D), ring (17F), Kellum grip (17C) and gland nut (17B) into housing (21) and tighten gland nut to **17.5 ft/lbs.**

### Impeller, V-ring and Volute:

10. Position v-ring (25) into seal plate (29) until seated.

11. Clean the threads with thread locking compound cleaner. Apply removable Loctite® 242 or equivalent to shaft threads. Screw impeller (27) onto the shaft hand tight while using a screwdriver in the slot at the end of the shaft to hold it stationary. Rotate impeller to check for binding.

12. Position gasket (2) on volute flange and position impeller and motor housing assembly on volute (1).

13. Place lock washers (24) on cap screws (25) and screw into volute (1). **Torque to 25 ft/lbs.** Check for free rotation of impeller.

14. Reattach strainer (28) and legs (29).

15. Refill with cooling oil, 40.6 oz (1.2 liters)

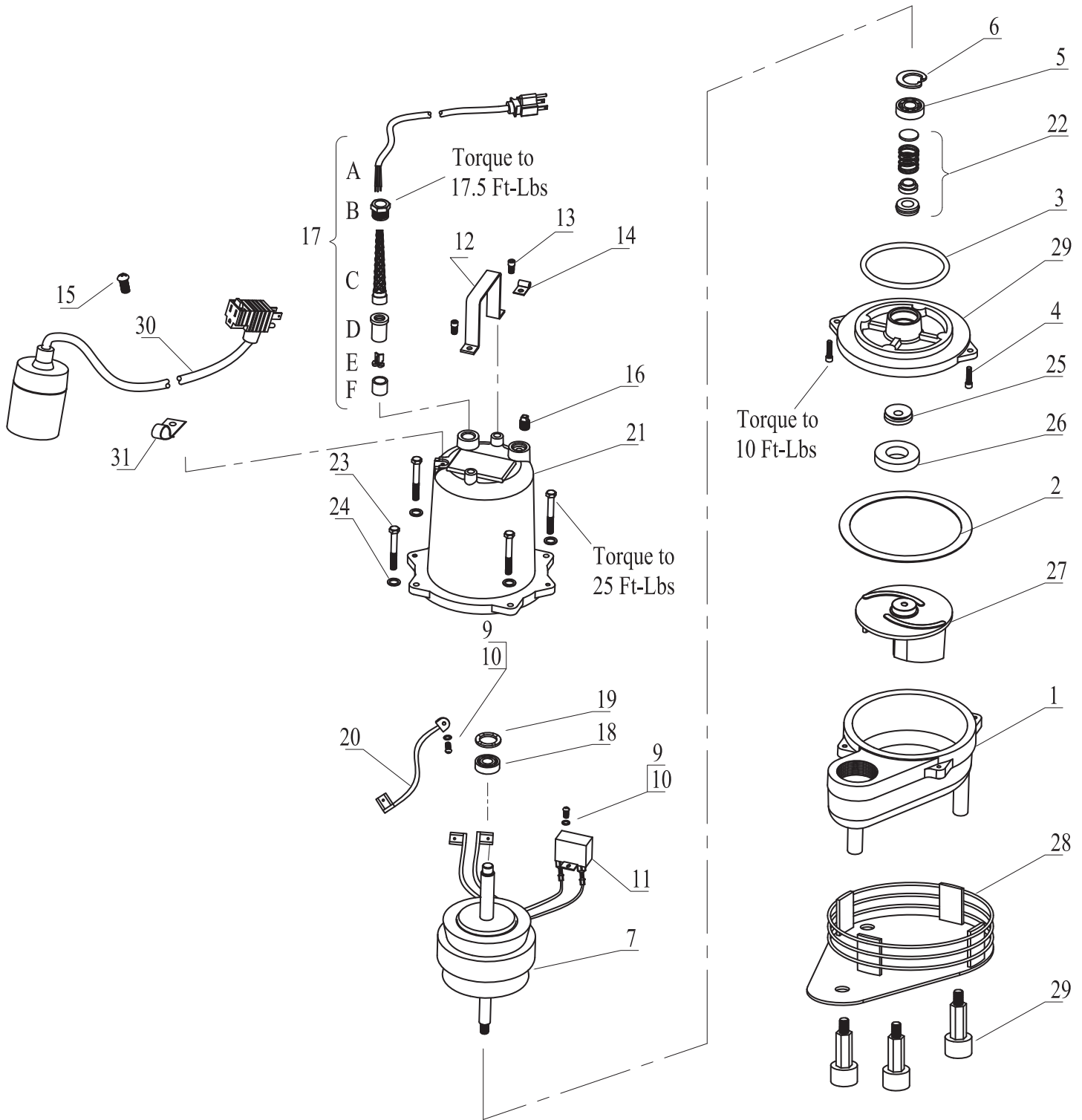
### Float Switch:

16. Attach float (30) to motor housing (21) with cable clamp (31) and screw (15). Leave a minimum tether of 3.50 inches from cable clamp and end of float. (See Fig. 5 on page 9 and also page 4).



For Repair Part Please supply: Model Number and MFG Date as shown on Name Plate, and Part Description and Part Number as shown on Parts List.

**Repair Parts**



**Figure 5**

## Repair Parts

For Repair Part Please supply: Model Number and MFG Date as shown on Name Plate, and Part Description and Part Number as shown on Parts List.

ITEM	QTY		DESCRIPTION	Part No.
1	1		Volute	---
2	1	◆	Gasket	PF068984A
3	1	◆	Square ring	PF019289A
4	2		Screw, Stainless - Torque to 10 Ft-Lbs	---
5	1	◆	Bearing, 6203 - Upper	---
6	1		Snap Ring	---
7	1		Motor (Rotor/Stator)	---
				---
9	1		Screw	---
10	1		Lockwasher	---
11	1	◆	Capacitor, 20uF/250V	PF035864
12	1		Handle	---
13	2		Screw	---
14	1		Tubing Jacket	---
15	1		Screw	---
16	1		Plug	---
17	1		Power Cord Assembly 15 Ft. 16/3c SJOOW	PF100502K
17A	1		Cord	---
17B	1		Nut - Torque to 17.5 Ft-Lbs	---
17C	1		Kellum Cable Grip	---
17D	1		Nylon/GF Housing	---
17E	1		Ring	---
18	1	◆	Bearing, 6202 - Lower	PF17415
19	1		Spring Washer	---
20	1		Ground wire	---
21	1		Motor Housing	---
22	1	◆	Mechanical Seal	PF068988SK
23	4		Screw - Torque to 25 Ft-Lbs	---
24	4		Washer	---
25	1	◆	V-ring	PF068053A
26	1	◆	Spacer Seal	PF63PFS4103
27	1	☆	Impeller	PF089369TG
28	1	☆	Strainer	5000005
29	3		Leg	---
30	1	☆	Mechanical Float, High Temp., 15 Ft.	PF059-3640
31	1		Cord Clamp	---
<b>OVERHAUL KIT</b>				
◆	Kit includes: gasket (2), square ring (3), bearing (5), capacitor (11), bearing (18), seal (22), v-ring (25), spacer seal (26)			PF5411HT-OHK

◆ = Acquire standard hardware locally.

◆ = Overhaul Kit

☆ = Supplied as individual items



## Trouble Shooting Chart



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

Symptom	Possible Cause(s)	Corrective Action
Pump will not run	Blown fuse or other interruption of power; improper voltage.  Switch is unable to move to the "turn ON" position due to interference with the side of basin or other obstruction  Insufficient liquid level  Defective level control	Check that the unit is securely plugged in. Have an electrician check all wiring for proper connections and adequate voltage and capacity.  Position the pump or switch so that it has adequate clearance for free operation.  Make sure the liquid level is allowed to rise enough to activate level control(s).  Remove and replace level controls
Pump will not turn off	Discharge is blocked or restricted  Check valve is stuck closed or installed backwards  Gate or ball valve is closed  Total lift is beyond pump's capability  Pump impeller is jammed or volute casing is plugged	Check the discharge line for foreign material, including ice if discharge line passes through or into cold areas  Remove check valve(s) and examine for freedom of operation and proper installation  Open gate or ball valve  Try to route piping to a lower level. If not possible, a larger pump may be required. Consult the factory  Disconnect unit electrically. Remove the pump from the basin. Detach the pump base and clean the area around the impeller. Rotate impeller by hand. Reassemble and reinstall
Pump will not turn off	Level control(s) unable to move to the "turn OFF" position due to interference with the side of basin or other obstacle  Defective level control	Position the pump or level control so that it has adequate clearance for free operation  Remove and replace level control
Pump runs periodically when fixtures are not in use	Check valve is stuck open or is leaking  Fixtures are leaking	Remove check valve(s) and examine for freedom of operation and proper installation  Repair fixtures as required to eliminate leakage
Pump operates noisily	Debris in the impeller cavity  Damaged impeller  Worn bearings  Piping attachments to building are too rigid	Remove the pump from the basin. Detach the pump base and clean the area around the impeller. Reassemble and reinstall  Consult the factory for information regarding replacement of impeller  Return pump to the factory or authorized repair station for repair  Replace a portion of the discharge line with rubber hose or connector

**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.



## LIMITED WARRANTY

Manufacturer warrants, to the immediate purchaser and subsequent initial owner during the warranty period, every new pump to be free from defects in material and workmanship under normal use and service, when properly used and maintained, for a period of eighteen (18) months from date of manufacture or twelve (12) months from date of installation (which ever comes first). Failure due to wear due to excessive abrasives is not covered. The initial owner is the purchaser who first uses the pump after its initial installation, or for non-permanent installation, the first owner who uses the pump. The date of installation 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. 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.powerflo pumps.com](http://www.powerflo pumps.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.

