

POWER-FLO
Pumps & Systems

PF Dewatering Series Submersible Dewatering Pumps



PowerPROseries
by Power-Flo Pumps & Systems

POWER-FLO
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Pump Component Drawings for Series:

- PF01000 Series - 3/4 hp models
- PF01300 Series - 1 hp models
- PF20000 Series - 2 hp models
- PF25000 Series - 2-1/2 hp models
- PF27000 Series - 2-3/4 hp models
- PF50000 Series - 5 hp models
- PF60000 Series - 6 hp models
- PF81000 Series - 10 hp models
- PF81500 Series - 15 hp models
- PF82500 Series - 25 hp models
- PF85000 Series - 50 hp models

Control Box Component Drawings:

Control Wiring Diagram Page 33 - 35

Typical Name Plate

POWER-FLO <i>Pumps & Systems</i>	
Model Number	PF50112
MFG Date	MC
Voltage	230v
Phase	1.0
60 Hz	HP 5.0
877-24 PUMPS www.powerflopumps.com	

Pump Model Number: _____
 Serial Number or MFG Date: _____
 Date of Purchase: _____
 Installation Date: _____

Voltage and Current Readings at Startup:

1-Phase Models: 3-Phase Models:
 Amps _____ Amps L1-2 _____ Volts L1-2 _____
 Volts _____ Amps L2-3 _____ Volts L2-3 _____
 Amps L3-1 _____ Volts L3-1 _____

General Safety Instructions

THOROUGHLY REVIEW ALL INSTRUCTIONS BEFORE INSTALLING, OPERATING OR PERFORMING ANY WORK ON THIS PUMP.

FOR YOUR SAFETY AND THE SAFETY OF OTHERS -This manual is intended to assist in the installation and operation of the pump and should be kept for easy reference at all times. Please pay particular attention to the **SAFETY ALERT** messages throughout this manual.

IMPORTANT! Information or directions related to assembly, installation, operation, or maintenance which could result in personal injury or damage to the pump or system if ignored.

WARNING! Warns of hazards that CAN or WILL cause serious personal injury, death, or major property damage if ignored.



WARNING! Only qualified personnel should install, operate and repair pump. All electrical work must be performed by a qualified electrician. To reduce the risk of electrical shock, all wiring, junction connections

and control panels must be properly wired and grounded in accordance with the National Electric Code (NEC) or the Canadian Electrical Code (CEC) and all applicable state, province, local codes and ordinances. Failure to follow these codes may result in personal injury or equipment damage and will void the warranty.

WARNING! This pump is NOT intended for use in swimming pools. When used in a decorative fountain application the pump MUST be protected by a Ground Fault Interrupter.

WARNING! This pump is NOT intended for applications including hazardous materials or where flammable gases exist. Only pumps specifically Listed for Class 1, Division 1 are allowable where hazardous liquids or flammable gases may exist.

IMPORTANT! Failure to follow the instructions in this manual may lead to serious injury or even death! The following safety guidelines should be followed when operating any submersible pump.

- **NEVER** operate the pump without proper protective safety glasses, steel-toed boots and/or other protective devices required for the job.
- **ALWAYS** disconnect the pump from the power source before handling or servicing. Lock out and tag the power supply to reduce risk of electrical shock.
- **ALWAYS** make sure the pump is grounded properly. Improper grounding may void the warranty.
- **NEVER** operate a pump with a plug-in type power cord without a ground fault interrupter.
- **NEVER** plug in the pump while standing in water.

- **ALWAYS** protect the power cable to avoid punctures, cut, bruises and abrasions - inspect frequently.
- **ALWAYS** make sure that the voltage supplied to the pump is correct. Check the pump name plate to verify the required voltage.
- **CAUTION!** The pump may build up heat and pressure during operation. Allow time for the pump to cool before handling or servicing.
- **DO NOT** lift the pump by the power cord. The use of an adequate rope or lifting chain should be attached to the lifting handles. Make sure that the lifting handles are securely fastened each time before lifting
- **DO NOT** wear loose clothing that may become entangled in the impeller or other moving parts.
- **DO NOT** insert fingers into the pump while power is connected and the pump is running.
- **DO NOT** exceed manufacturers recommendation for maximum performance or temperature, as this could cause the motor to overheat or damage to the unit.



WARNING! Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment, to insure that employees will not be exposed to health hazards in handling said material. Return of merchandise requires "RMA" (Return Merchandise Authorization). Contact factory or pump supplier for authorization. All applicable laws and regulations shall apply.



Bronze/brass and bronze/brass fitted pumps may contain lead levels higher than considered safe for potable water systems. Lead is known to cause cancer and birth defects or other reproductive harm. Various government agencies have determined that leaded copper alloys should not be used in potable water applications. For non-leaded copper alloy materials of construction, please contact factory.

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

Pump Specifications

Model	Motor HP	RPM	Volt/Phase	Shut Off Head	Max Flow GPM	Dischg	Full Load Amps	Locked Rotor Amps	Cord Size	Cord O.D.	Winding Resistance W,B--R,B--R,W
PF01011	3/4	3450	115/1	41'	100	2"	11.0	36.2	14/4	0.570	1.5-6.2-4.7
PF01034	3/4	3450	460/3	41'	100	2"	1.8	7.5	14/4	0.570	34.2-34.2-34.2
PF01012	3/4	3450	230/1	41'	100	2"	5.8	18.1	14/4	0.570	6.0-7.6-7.6
PF01032	3/4	3450	230/3	41'	100	2"	3.6	15.0	14/4	0.570	8.5-8.5-8.5
PF01311 ‡	1	3450	115/1	43'	120	2"	12.0	36.2	14/4	0.570	1.5-6.2-4.7
PF01311A	1	3450	115/1	46'	120	2"	12.0	36.2	14/4	0.570	1.5-6.2-4.7
PF01311SCV	1	3450	115/1	46'	120	2"	12.0	36.0	14/3	0.570	1.5-6.2-4.7
PF01312 ‡	1	3450	230/1	43'	120	2"	7.5	18.0	14/4	0.570	6.0-7.6-7.6
PF01332 ‡	1	3450	230/3	43'	120	2"	3.8	15.0	14/4	0.570	8.5-8.5-8.5
PF01334 ‡	1	3450	460/3	43'	120	2"	1.9	7.5	14/4	0.570	34.2-34.2-34.2
PF20111	2	3450	115/1	76'	175	2" & 3"	23.3	92.4	12/4	0.650	0.4-1.5-1.1
PF20112	2	3450	230/1	76'	175	2" & 3"	11.7	51.1	12/4	0.650	1.6-5.8-4.2
PF25132HH	2-1/2	3450	230/3	89'	152	2" & 3"	6.8	49.2	12/4	0.650	2.0-2.0-2.0
PF25132HV	2-1/2	3450	230/3	50'	300	2" & 3"	7.8	49.2	12/4	0.650	2.0-2.0-2.0
PF25134HH	2-1/2	3450	460/3	89'	152	2" & 3"	3.4	24.6	12/4	0.650	8.0-8.0-8.0
PF25134HV	2-1/2	3450	460/3	50'	300	2" & 3"	3.9	24.6	12/4	0.650	8.0-8.0-8.0
PF27112	2-3/4	3450	230/1	50'	300	2" & 3"	12.5	52.6	12/4	0.650	1.60-5.80-4.20
PF35112	3-1/2	3450	230/1	78'	250	2" & 3"	18.5	84.1	12/4	0.650	0.86-2.2-2.2
PF50112	5	3450	230/1	91'	300	2" & 3"	27.0	94.0	12/4	0.650	0.7-2.7-2.0
PF50132HV	5	3450	230/3	91'	300	2" & 3"	15.5	87.8	12/4	0.650	0.85-0.85-0.85
PF50134HV	5	3450	460/3	91'	300	2" & 3"	7.8	43.9	12/4	0.650	3.60-3.60-3.60
PF50132-2ST	5	3450	230/3	175'	185	2" & 3"	17.3	98.0	12/4	0.650	0.85-0.85-0.85
PF50134-2ST	5	3450	460/3	175'	185	2" & 3"	8.7	48.0	12/4	0.650	3.60-3.60-3.60
PF60112	6	3450	230/1	80'	450	4"	34.0	145.0	6/4	1.100	0.43-1.8-1.37
PF81032HH	10	3450	230/3	165'	450	4"	30.0	208.0	6/4	1.100	0.30-0.30-0.30
PF81032HV	10	3450	230/3	104'	605	4"	30.0	208.0	6/4	1.100	0.30-0.30-0.30
PF81034HH	10	3450	460/3	165'	450	4"	15.0	104.0	12/4	0.650	1.14-1.14-1.14
PF81034HV	10	3450	460/3	104'	605	4"	15.0	104.0	12/4	0.650	1.14-1.14-1.14
PF81532HH	15	3450	230/3	200'	600	4"	39.5	288.0	6/4	1.100	0.21-0.21-0.21
PF81532HV	15	3450	230/3	130'	800	4"	39.5	288.0	6/4	1.100	0.21-0.21-0.21
PF81534HH	15	3450	460/3	200'	600	4"	19.7	144.0	12/4	0.650	0.75-0.75-0.75
PF81534HV	15	3450	460/3	130'	800	4"	19.7	144.0	12/4	0.650	0.75-0.75-0.75
PF82532HH	25	3450	230/3	230'	800	6"	65.8	464.0	4/4	1.286	0.37-0.37-0.37
PF82532HV	25	3450	230/3	160'	1000	6"	65.8	464.0	4/4	1.286	0.37-0.37-0.37
PF82534HH	25	3450	460/3	230'	800	6"	32.9	232.0	4/4	1.286	0.10-0.10-0.10
PF82534HV	25	3450	460/3	160'	1000	6"	32.9	232.0	4/4	1.286	0.10-0.10-0.10
PF85034HH	50	3450	460/3	245'	1025	6"	56.0	360.0	4/4	1.286	0.19-0.19-0.19
PF85034HV	50	3450	460/3	190'	1425	6"	56.0	360.0	4/4	1.286	0.19-0.19-0.19

Winding Resistance ± 5%. LC = Less Control Box.

(‡) 1Hp pumps prior to Dec. 2009 (Mfg Date: MC) had a shut off head of 46Ft., After Dec. 2009 they will be 43Ft.

Pump Specifications

LIQUID TEMPERATURE		140°F (60°C)
DISCHARGE CASE		Aluminum, Hard Anodized
DIFFUSER		Aluminum, Hard Anodized
SUCTION CASE		Aluminum, Hard Anodized, with wear resistant polyurethane liner
FRAME		Aluminum, Hard Anodized
OUTER CASE		Aluminum, Hard Anodized
WEAR PLATE*		Polyurethane
PUMP SHAFT		Stainless Steel
IMPELLER		Polyurethane (3/4hp & 1hp only) Stainless Steel (2hp - 50hp models)
HARDWARE		Stainless Steel
O-RING MATERIAL		Buna-N
SEAL	Design	Tandem, Oil Lubricated
INBOARD	Material	Rotating Face - Carbon Stationary Face - Ceramic Elastomer - Buna-N Hardware - 300 Series Stainless
OUTBOARD	Material	Rotating Face - Silicon Carbide Stationary Face - Silicon Carbide Elastomer - Buna-N Hardware - 300 Series Stainless
STRAINER		Stainless steel, 3/16" Holes on 3/4 & 1HP, 1/4" Holes on Rest Anti-Sludge, Stainless Steel, 3/16" Holes on PF01311SCV, (Optional)
UPPER BEARING	Design	Single Row, Ball
	Lubrication	Prelubricated high-temperature grease
	Load	Radial
LOWER BEARING	Design (.75hp-5hp)	Single Row, Ball
	Design (6, 10 & 15hp)	Single Row, Ball, Shielded
	Design (25hp-50hp)	Double Row, Shielded, Ball, Angular contact
	Lubrication (all models)	Prelubricated high-temperature grease
	Load (all models)	Radial & Thrust
POWER CABLE		25 & 50Ft., with Strain Relief and Pressure Grommet for Sealing
POWER CABLE	PF01311SCV - Only	65Ft. , with Strain Relief and Pressure Grommet for Sealing, & 115 volt plug
MOTOR		Insulation: Class H ~ VPI (vacuum Pressure Impregnation)
MOTOR	PF01311SCV - Only	Insulation: Class H ~ VPI, Overload protection included in motor. Internal start & run capacitors
CONTROL	Single Phase	Watertight. Provides overload and short circuit protection. Start & Run Capacitors, ON-OFF Switch
	Three Phase	Watertight. Provides Circuit Breaker for overload and short circuit protection

(*) Not used on 3/4 and 1HP units.

WARRANTY INVALID IF CORRECT POWER-FLO CONTROL IS NOT USED AT ALL TIMES



Pump Dimensions - 3/4HP & 1HP

3/4HP - PF01011, 01012, 01032, 01034

1HP - PF01311, 01312, 01332, 01334,

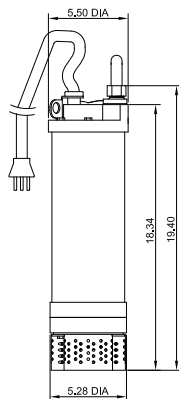
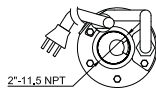
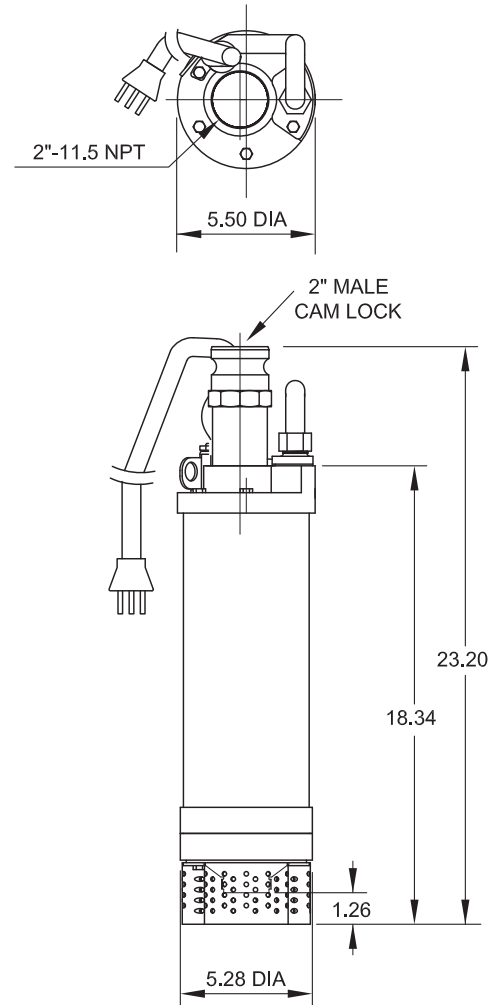
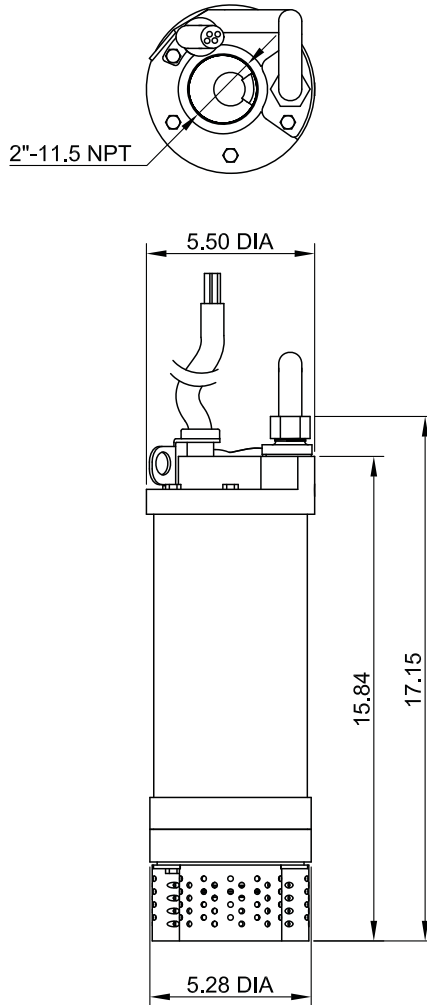
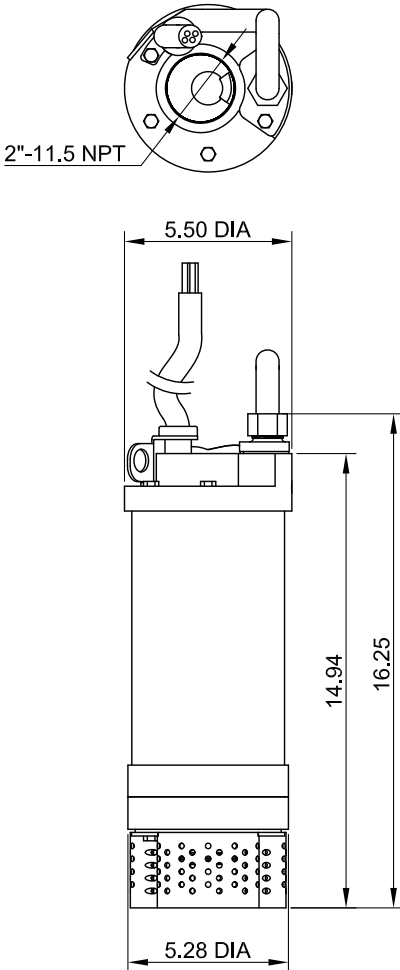
1 Hp **AFTER** Dec 2009 will be of this design

1HP - PF01311A,

Any PF01311 01312, 01332, 01334 pump Dated **BEFORE** Dec. 2009 will be of this design.

1HP - PF01311SCV,

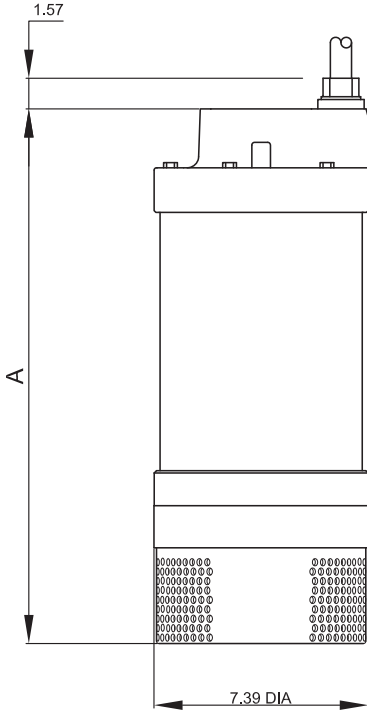
Replaces PF01311SC as of Oct. 2010



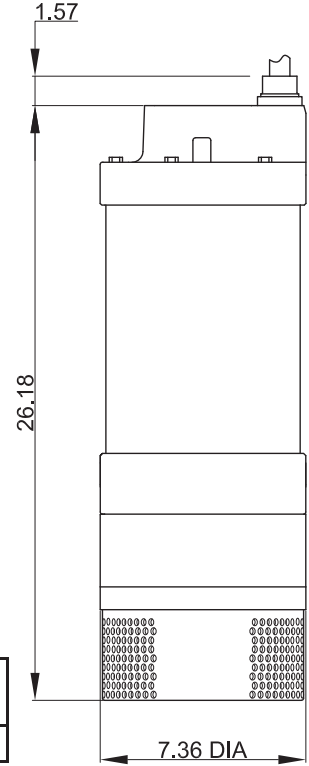
PF01311SCV includes; 2" Cam Lock, 2" pipe nipple, 65Ft cord w/115volt plug, 30Ft Nylon rope, Start & Run Capacitors.

1HP - PF01311SC; Replaced by PF01311SCV Oct. 2010

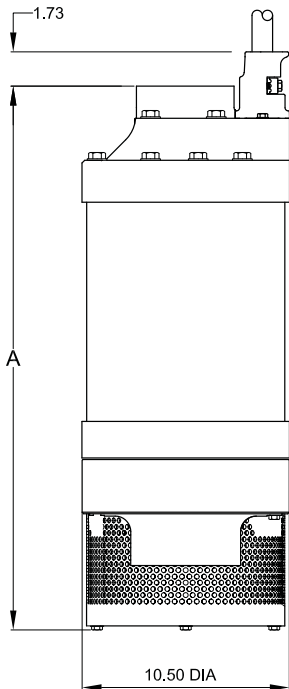
Pump Dimensions



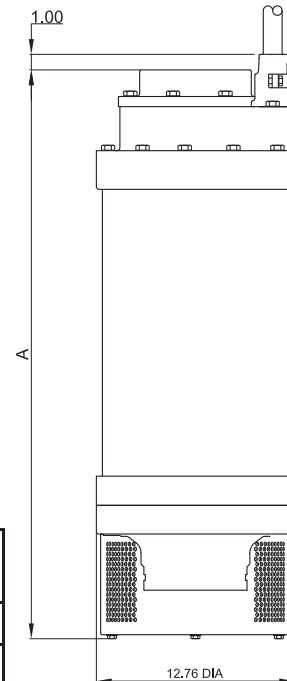
PUMP SERIES	HP	DIM "A" (inches)	NPT Discharge
PF20000	2	18.00	2" & 3"
PF25000	2-1/2	21.44	2" & 3"
PF27000	2-3/4	18.00	2" & 3"
PF35000	3-1/2	21.44	2" & 3"
PF50000	5	21.44	2" & 3"



PUMP SERIES	HP	NPT Discharge
PF50000-2ST	5	2" & 3"



PUMP SERIES	HP	DIM "A" (inches)
PF60112	6	27.38
PF81000	10	27.38
PF81500	15	29.12



PUMP SERIES	HP	DIM "A" inches
PF82500	25	33.31
PF85000	50	36.61

General Information

Receiving Inspection

ALWAYS inspect pumps upon receipt and prior to use for possible shipping damage or shortages. If damage is evident, file a freight delivery claim with the delivering carrier immediately.

Returned Goods Authorization:

For the location of the nearest repair facilities contact Power-Flo Pumps & Systems.

Storage

Store the pump in a dry area. For periods exceeding six (6) months, store the pump in a temperature controlled (+40F to +120F) area that provides protection from wet, freezing weather and excessive dust. It is recommended that prior to initial start up, without power connected, rotate the impeller by hand to assure the mechanical seal and impeller rotate freely.

Location:

The Power-Flo Series dewatering pumps are designed to pump water and are used for dewatering of building sites, pipelines, coffer dams, tunnels, utility and telecommunication manholes and transformer vaults, construction sites, emergency services aboard ship, marine cargo holds, ballast tanks and for general use in shipyards and dry-docks.



IMPORTANT! - Consult the factory prior to pumping any liquid other than water or in excess of 140°F at a specific gravity 1.0.

These pumps are designed to run dry for a reasonable time in a non-submerged condition without damage. This is accomplished by the pump design allowing air to flow from the suction of the pump, past the motor, and out the discharge, removing the heat generated by the motor. The internal water channel of the pump must not be blocked by any foreign object.



IMPORTANT! - A strainer should be installed on pump at all times. Inspect and clean strainer periodically to maintain pump efficiency.

Overload Protection:

Single Phase pumps are provided with fuses in the control box for protection against motor damage due to locked rotor conditions and short circuits.

A switch is provided for manual "ON - OFF" control. Before starting/restarting the pump, check for correct voltage and phase. Also check for short circuits, cuts or breaks in cable and that all connections are tight. Do not let the pump cycle or run if an overload condition exists.

Three Phase pumps are provided with a circuit breaker in the control box for protection against motor damage due to locked rotor conditions and short circuits. Disconnect the power to the pump if any of these conditions occur. Before starting or restarting the pump, check for correct voltage and phase. Also check for short circuits, cuts or breaks in cable and that all connections are tight. Do not let the pump cycle or run if an overload condition exists.

Pump Rotation:

ALWAYS check the motor rotation prior to installing and starting up three phase pumps. Improper motor rotation can result in poor pump performance and can damage to the pump and/or the motor. To check the rotation, suspend the pump freely, momentarily apply power and observe the "Kick".

"Kick" should always be in a clockwise direction as viewed from the top of the pump motor housing. Pump "Kick" is the opposite direction of pump rotation. Correct motor rotation is counter clockwise. In the event that the rotation is incorrect for a three-phase unit, interchange any two power cable leads at the control box. DO NOT change leads in the cable housing in the motor. Recheck the "Kick" rotation again by momentarily applying power.

Installation:

ALWAYS install the pump in an upright position on its strainer base. A discharge hose (not supplied) should be connected to the discharge port. A discharge pipe can also be used. The discharge hose or pipe should be properly supported to avoid placing any stress on the pump.

ALWAYS mount the control box above the ground to minimize dirt and/or water exposure.

Install the pump directly into an area where there is a heavy buildup of mud, grit, silt or debris. If this condition is present install the pump on a platform.

ALWAYS lower the pump without dropping the pump. Avoid impact landings.

Pump Installation & Operation

DO NOT lift the pump by the power cord. The use of an adequate rope or lifting chain should be attached to the lifting handles. Make sure that the lifting handles are securely fastened each time before lifting. The pumps should be lowered into position carefully without dropping. Avoid impact landings.

DO NOT modify the power cord assembly in any way except for shortening for a specific application. Any splice between the pump and the control panel must be made in accordance with the National Electric Codes. Cable should be protected at all times to avoid punctures which penetrate the outer cover.

ALWAYS Install proper safety ground connection to the green conductor to insure the motor, pump and control remains properly grounded at all times, independent of the power supply. A metal well casing is one of the best grounds available.

Transmission of power from source to pump control should be accomplished with properly sized 4 conductor cable of heavy duty type to prevent excessive voltage drop during full load conditions.

Voltage supplied to the pump must not vary more than plus or minus 10% of rated pump voltage, measured at the motor terminal. Voltage must also be balanced phase to phase within 5%. See specification on page 4.

Operation:

Power-Flo dewatering pumps are provided with a control box including an "ON-OFF" switch for manual operation of the pump. As an option the pumps can be set up to operate with a float switch for automatic operation. For more information regarding automatic operation contact Power-Flo Pumps & Systems.

Do not attempt to start a frozen pump. It is recommended that the pump be submerged in water for twenty-five (25) minutes before starting. Do not thaw a frozen pump with a torch.

Do not operate pump running the motor in the reverse direction. This may cause damage to the pump and/or motor. See Installation instructions for checking direction of rotation.



WARNING! Always avoid repeated attempts to start the motor. If the motor fails to start after two attempts, remove the pump from service and schedule maintenance.

WARNING! Do not let the pump cycle or run if an overload condition occurs.

When starting pumps in series, start one pump at a time to avoid excessive current draw on the power supply. Always start the bottom pump first, then the next to the bottom, etc. When shutting down, turn off the top pump first and continue downward after allowing sufficient time for the water column to drain down to the next lower pump. This process reduces the chance of over-pressuring the lower seals.

IMPORTANT! Pressure inside 3" discharge pumps or smaller should not exceed 100 PSI (231 ft of Head). Pressure inside 4" discharge pumps or larger should not exceed 200 PSI (462 ft. of Head).

Preventative Maintenance:

Frequent inspection shall be made. All electrical parts, including the cable and wiring, shall be kept in a safe condition.

- **PERIODICALLY** check that the power cable gland compression nut is tight.
- **PERIODICALLY** check that all bolts, nuts, screws and other means of fasteners, are in place, properly tightened and secured.
- **PERIODICALLY** check the power cable for any damage or misuse. Special care shall be taken to protect the heavy usage, type SOW submersible cable from wear or damage.

WARNING! Only qualified personnel should install, operate and repair pump. All electrical work must be performed by a qualified electrician. To reduce the risk of electrical shock, all wiring, junction connections and control panel must be properly wired and grounded in accordance with the National Electric Code (NEC) or the Canadian Electrical Code (CEC) and all applicable state, province, local codes and ordinances. Failure to follow these codes may result in personal injury or equipment damage and will void the warranty

- **ALWAYS** ensure that the pump frame is effectively grounded. The power wires shall not be used as a source for grounding.
- **PERIODICALLY** check the amperage draw on the motor. The amperage readings should not exceed the limits as indicated in the pump manual.
- **VERIFY** that the operating voltage matches the voltage rating of the motor(s) as indicated on the pump name plate.

Service & Repair

IMPORTANT! If a generator is the power source for this equipment, check daily for variations of voltage and cycles. Variations of voltage and cycles could cause damage to the motor.

- **ALWAYS** use original OEM replacement parts furnished by the manufacturer whenever servicing the unit.
- **PERIODICALLY** inspect the mechanical seals for wear. It is recommended that the mechanical seals be inspected every 1700 hours of operation (more often if abrasives are present in the pumpage). A quick check of the seals condition is accomplished by draining and inspecting the oil in the seal chamber. If water and/or abrasives are found in the oil the seals need to be replaced.
- **ALWAYS** drain the oil from the seal chamber (a must if exposed to freezing weather) before storing the unit for an extended period of time. If water and/or abrasives are found in the oil replace the seals, bearings and o-rings before refilling the oil and starting the pump.

The following information is provided to assist in the disassembly and reassembly steps required to properly service and repair the Power-Flo dewatering pump series.

Electrical Inspection: Prior to disassembly, perform an electrical inspection of the cable, control box and motor utilizing a megger and an ohmmeter.

Insulation Resistance - Cable & Control: The insulation resistance of the cable and control can be measured by attaching the megger probes to the pump lead side of the circuit breaker in the control box, one probe to the ground lead and one probe to a pump power lead. Insulation resistance values are acceptable if they are 10 megohms or greater. If the readings are below 10 megohms the motor leads should be disconnected from the cable assembly so that the cable can be tested separately from the motor.

Should the cable show insulation resistance of less than 10 megohms, disconnect the cable from control box and attach megger probes to the individual leads within the cable. Values below 10 megohms of insulation resistance indicate damage or moisture inside the cable jacket. It is then recommended that the cable be replaced. Low values of insulation resistance below 10 megohms for the circuitry within the control box also indicate damage or moisture.

Insulation Resistance - Motor: The insulation resistance of the motor stator can be measured by attaching one probe of the megger to the motor power leads and the other probe to the motor ground lead or to bare metal of the pump frame.

Insulation resistance values under 10 megohms indicate damaged leads or the presence of excessive moisture within the stator winding. Moisture can be removed from the stator by placing the stator and frame assembly in an oven and baking the assembly at 250°- 275°F for two to three hours. This must be performed by a certified motor WASSA facility. After baking, verify that insulation resistance to be 10 megohms or greater. If less than 10 megohms replace the stator.

Stator should be replaced if the insulation resistance is low due to other modes of failure, such as damaged leads, deformed ends turns, etc. Stator should also be replaced if the resistance of the stator windings is greater than those specified on page 4, buy measuring the resistance with an ohmmeter between the leads of the stator.

Lubrication:

Checking Seal Chamber Oil: To check the seal chamber oil, remove pipe plug from diffuser. With a light, visually inspect the oil in the seal cavity 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. Pour the oil out of the oil chamber, replace mechanical shaft seals and refill the seal chamber with new oil.

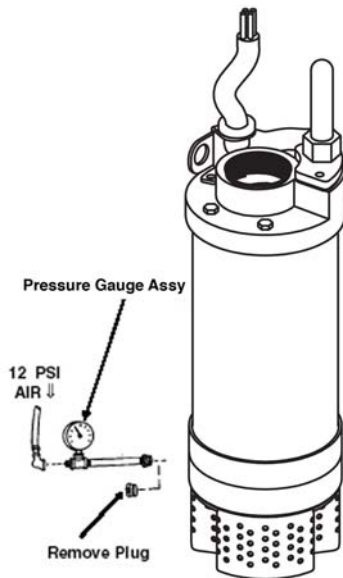
Replacing Seal Chamber Oil: To replace the seal chamber oil, remove pipe plug from diffuser, and drain oil from seal chamber and dispose of properly. Flush inside seal chamber of diffuser thoroughly to be sure it is clean and free of abrasives. Refill oil chamber with 5 oz (150 ml), or about half full, of a 20W non-detergent turbine oil (See Table). After replacing oil, replace pipe plug using a sealant.

OIL VOLUME	
MODEL	OIL
3/4 HP - 1.0 HP	2.6 oz.
2.0 HP - 5.0 HP	4.6 oz.
6 HP, 10 HP & 15 HP	25.0 oz.
25 HP & 50 HP	32.0 oz.



Supplier	Grade
Gulf	Harmony 68
Texaco	URSA-P-68 or Equivalent

Seal Cavity Pressure Test: To check the seal cavity pressure, remove pipe plug from diffuser and verify correct amount of oil. As illustrated, tighten a pressure gauge assembly into hole in Intermediate diffuser. Pressurize seal chamber to 12 PSI and maintain for 5 minutes checking for leaks.



DO NOT EXCEED 12 PSI - this will damage the seal. If no leaks are observed, and pressure held constant, slowly bleed the pressure and remove the gauge assembly. Replace the pipe plug using a sealant. If the pressure does not hold, then the leak must be located and repaired.

Impeller Service (Single Stage Pumps):

Disassembly: To inspect or replace impeller and impeller o-ring, remove screws and remove strainer. Remove cap screws, flat washers and brackets. Remove suction case. Check the suction case lining for wear, cuts, or defects and replace if necessary. Remove locknuts and washer from shaft. The impeller should slip off the shaft, if not, remove the o-ring from the impeller groove and use a bearing puller. Inspect the impeller for wear or damage. Replace shims if necessary. **NOTE:** Seal spring relaxes when impeller is removed and may cause oil to leak through.

Reassembly: To reassemble, slide shims onto shaft. Apply an anti-seize compound on the shaft area where the impeller fits. Insert o-ring into groove on impeller and slide the impeller onto the shaft. Insert washer and two locknuts onto shaft and tighten to 37 ft. lbs. Replace suction case on diffuser and brackets, lining up holes and inserting cap screws with flat washers tightening to 5 ft. lbs.

Impeller Service (2-Stage Pumps):

Disassembly: To inspect or replace impellers and impeller o-rings, remove screws and strainer. Remove cap screws, flat washers and brackets. Remove suction case and o-ring. Check suction case lining for wear, cuts, or defects and replace if necessary. Remove locknut and washer from shaft. The outer impeller should slip off the shaft, if not, remove the o-ring from the impeller groove and use a bearing puller. Inspect the impeller for wear or damage. Remove shims, spacer, lower diffuser and o-ring, replace if necessary. The inner impeller should slip off the shaft, if not, remove the o-ring from the impeller groove and use a bearing puller. Inspect the impeller for wear or damage, remove shims. **NOTE:** Seal spring relaxes when impeller is removed and may cause oil to leak.

Reassembly: To reassemble, slide inner shims onto shaft. Apply an anti-seize compound on the shaft area where the impeller fits. Insert o-ring into groove on inner impeller and slide the impeller onto the shaft. Apply silicon grease to o-rings and place on lower diffuser. Place lower diffuser assembly onto upper diffuser. Slide spacer and outer shims onto shaft. Apply an anti-seize compound on the shaft area where the outer impeller fits. Insert o-ring into groove on outer impeller and slide the impeller onto the shaft. Replace washer and locknut onto shaft and tighten to specified ft. lbs (see chart on page 15). Replace suction case onto diffuser and brackets, lining up holes and inserting cap screws with flat washers tightening to the specified ft. lbs. (See chart on page 13).

Checking Impeller Clearance:

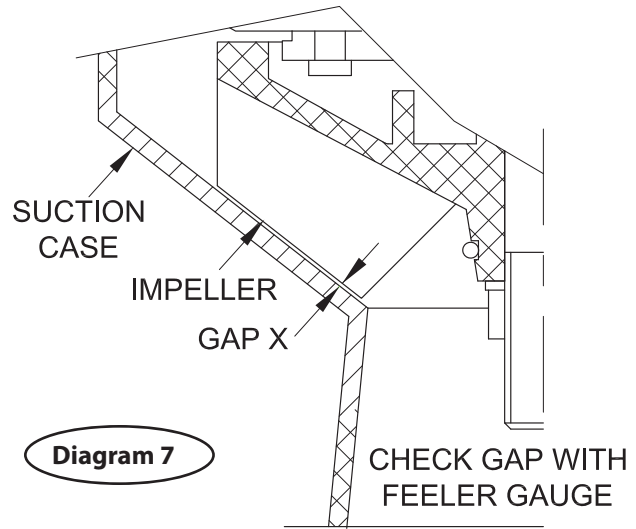
After assembly, check that the impeller rotates smoothly. You will feel a slight drag due to bearing and rotary seal friction. If the impeller turns roughly, the bearings should be replaced, If impeller hangs up or is hard to turn, the gap between the impeller and suction case should be checked. To check the gap, a feeler gauge should be used. Check the gap between the suction case liner and the impeller vanes as shown in (Diagram 7). Determine the proper gap setting from the table below and adjust by adding or removing shims behind the impeller. Inspect and clean strainer. Ensure holes are not clogged. Position strainer onto suction case. Insert three screws and tighten.

Service & Repair

Impeller Gap Chart:

Model	HP	Impeller Gap
PF01011	3/4	.020" - .030"
PF01012	3/4	.020" - .030"
PF01032	3/4	.020" - .030"
PF01034	3/4	.020" - .030"
PF01311 & PF01311A	1	.020" - .030"
PF01311SC	1	.020" - .030"
PF01312	1	.020" - .030"
PF01332	1	.020" - .030"
PF01334	1	.020" - .030"
PF20111	2	.020" - .030"
PF20112	2	.020" - .030"
PF25132HH	2-1/2	.020" - .030"
PF25132HV	2-1/2	.020" - .030"
PF25134HH	2-1/2	.020" - .030"
PF25134HV	2-1/2	.020" - .030"
PF25112C	2	.020" - .030"
PF27112	2-3/4	.020" - .030"
PF35112	3-1/2	.020" - .030"
PF50112	5	.020" - .030"

Model	HP	Impeller Gap
PF50132HV	5	.020" - .030"
PF50134HV	5	.020" - .030"
PF501322ST	5	.020" - .030"
PF501342ST	5	.020" - .030"
PF60112	6	.020" - .030"
PF81032HH	10	.020" - .030"
PF81032HV	10	.020" - .030"
PF81034HH	10	.020" - .030"
PF81034HV	10	.020" - .030"
PF81532HH	15	.020" - .030"
PF81532HV	15	.020" - .030"
PF81534HH	15	.020" - .030"
PF81534HV	15	.020" - .030"
PF82532HH	25	.030" - .040"
PF82532HV	25	.030" - .040"
PF82534HH	25	.030" - .040"
PF82534HV	25	.030" - .040"
PF85034HH	50	.030" - .040"
PF85034HV	50	.030" - .040"



Discharge & Cable Service:

Disassembly: While disassembling, check for indications of water leaks. Remove capscrews and washers, cable gland assembly and o-rings from discharge head. Power-Flo's Epoxy seal will minimize or eliminate water wicking into the motor due to a damaged power cable. Disconnect cable wires from stator leads by removing connectors, being sure that the stator's wires are identified before disconnecting. Check wires for breaks or cuts. If water is present, there may be leakage past the cable gasket hardware or the shaft seals. Check all items and replace if needed. Remove ground screw and washer from discharge head.

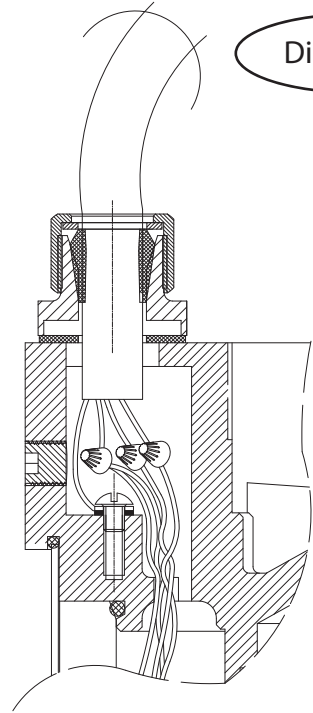
Remove capscrews, flat washers, lockwashers and quad rings from discharge head. Carefully, using a plastic hammer, tap the discharge head free from the frame assembly and remove while feeding the stator wires through the terminal cavity and stator dam in the discharge head. Now remove o-rings, replace o-rings showing any nicks, cuts, cracks, or deformation.

Reassembly: To assemble discharge head to stator/frame assembly, set the assembly in the upright position. Make sure all stator leads are properly identified for Dual Phase/Voltage). Each lead should be color coded or numbered for identification. Apply grease to o-rings and place on discharge case. Set the discharge case onto the stator/frame assembly with the terminal cavity directly over the stator leads and insert the leads through the stator dam into cavity opening, being careful not to lose the lead identification numbers or damage the o-rings. Be sure that load spring is sitting properly in bearing bore of discharge case. Line up the holes and insert capscrews with flatwashers, lockwashers and quad rings into holes and torque to 75 in lbs.

MODEL	WHERE USED	TYPE	TORQUE (ft. lbs.)
3/4 & 1 HP	DISCHARGE HEAD	1/4"-20 UNC	6.00
	SUCTION CASE/BOTTOM	1/4"-20 UNC	6.00
	SEAL PLATE	#6	0.80
	GROUND WIRE	#10	15.0
	AIR PLUG (UPPER)	1/8 NPT	3.00
	OIL PLUG (LOWER)	1/8 NPT	3.00
	IMPELLER NUT	3/8"-24 UNF	30.00
2, 2-1/2, 2-3/4, 3-1/2, & 5hp	DISCHARGE HEAD	5/16"-18 UNC	12.00
	SUCTION CASE/BOTTOM	5/16"-18 UNC	12.00
	CORD CAP	1/4"-20 UNC	6.00
	AIR PLUG (UPPER)	1/4 NPT	8.00
	OIL PLUG (LOWER)	1/8 NPT	3.00
	IMPELLER NUT	1/2"-20 UNF	50.00
6, 10 & 15HP	STRAINER	5/16"-18 UNC	12.00
	SUCTION CASE	3/8"-16	20.00
	BOLTS/STRAINER	3/8"-16	20.00
	DISCHARGE HEAD	3/8"-16	20.00
	CORD CAP	5/16"-18 UNC	12.00
	DISCHARGE ADAPTER	3/8"-16	20.00
	AIR PLUG (UPPER)	1/2"-13 UNC	12.00
	OIL PLUG (LOWER)	1/2 NPT	12.00
	IMPELLER NUT	1/2"-20 UNF	50.00
25 & 50HP	STRAINER	5/16"-18 UNC	12.00
	CORD CAP	5/16"-18 UNC	12.00
	DISCHARGE ADAPTER	1/2"-13 UNC	40.00
	SUCTION CASE	1/2"-13 UNC	40.00
	DISCHARGE HEAD	1/2"-13 UNC	40.00
	BOLTS/STRAINER	1/2"-13 UNC	40.00
	AIR PLUG (UPPER)	1/2"-20 UNF	12.00
	OIL PLUG (LOWER)	1/2 NPT	12.00
	IMPELLER NUT	5/8"-18 UNF	60.00
	IMPELLER NUT	1-12 UNF	60.00

Slide cable grip nut, cable grip, bushing and cable gland with o-rings onto cable, and expose approximately 3" of wire at the end of the cable. Attach ground screw and washer with ground wire (Green) to the inside of terminal cavity in discharge case. Make wire connections in accordance to Diagram 9 using connectors and then tape each connector individually with electrical tape.

Fold and insert the connectors and wires into the terminal box cavity. Insert capscrews with washers and tighten to 5 ft. lbs. Move Bushing, cable grip and gland nut into place and tighten to 22 ft. lbs. After assembly, an insulation test (or MEGGER) should be performed.



Motor and Bearing Service:

Disassembly: To service or replace motor and/or bearings, first remove discharge head then lower pump end. Remove rotor from stator then bearings, retaining rings, bearing ring and loading spring from rotor shaft. Use a bearing puller if needed. Bearings that feel rough, show wear or rust should be replaced. If stator needs replacement, replace stator and frame assembly.

Reassembly: Set the stator/frame assembly and the discharge case in a vertical position with the discharge case down. Slip the outer case over the frame. Press bearing onto discharge end of rotor shaft. Place retaining ring onto shaft and press bearing with bearing ring onto suction end of rotor shaft. Now assemble rotor assembly into stator/frame assembly. On 2-stage models, place retaining ring into diffuser. Place o-rings and bearing spring onto discharge head onto motor/frame assembly and pump lower end. An electrical inspection should be performed after reassembly.

Motor Chamber Pressure Test:

After final assembly, pressure test the motor chamber by removing pipe plug from discharge case and connect an air hose fitting into the pipe thread. Submerge the pump completely and apply 12 PSI air pressure. (See Diagram 10).

Service & Repair

WARNING! DO NOT exceed 12 psi air pressure. Pump must not show any leakage, if leakage occurs, determine location and replace defective or damaged parts, then retest pump. After pump has been tested and no leaks have been found, remove air hose connection and replace pipe plug using a sealant, into discharge case.

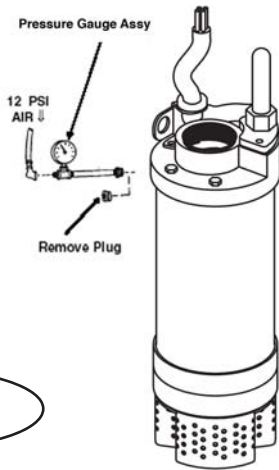


Diagram 10

Model Number:

This designation consists of numbers which represent, Pump type, Horsepower, Motor Phase and Voltage. This number should always be referenced when ordering and obtaining information.

MODEL NUMBER DESTINATION:

Size	3/4 hp & 1.0 hp			
Brand	HP	Phase	Voltage	
PF Power-Flo	0	XX	X	X
		10 = .75 13 = 1.0	1 = Single 3 = Three	1 = 115 2 = 230 4 = 460

Example: PF01211 (1hp ~ 1 Phase ~ 115 Volt)

Size	2.0 hp to 5.0 hp			
Brand	HP	Phase	Voltage	
PF Power-Flo	XX	1	X	X

Example: PF25134 (2.5hp ~ 3 Phase ~ 460 Volt)

Size	10.0 hp & 50.0 hp			
Brand	HP	Phase	Voltage	
PF Power-Flo	0/8 0 8 8 8	XX	X	X

Example: PF81034 (10hp ~ 3 Phase ~ 460 Volt)

115 Volt 0.75HP & 1 HP Single Phase

230 Volt 0.75HP & 1 HP Single Phase

2HP, 2.75, 3.5, 5 & 6HP Single Phase

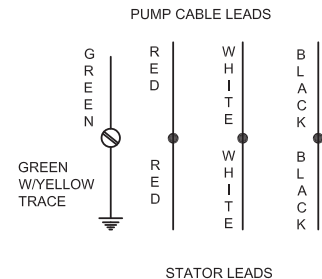
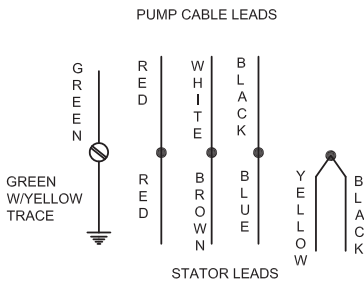
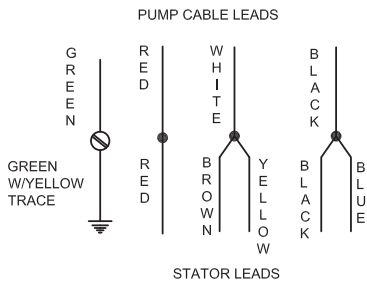
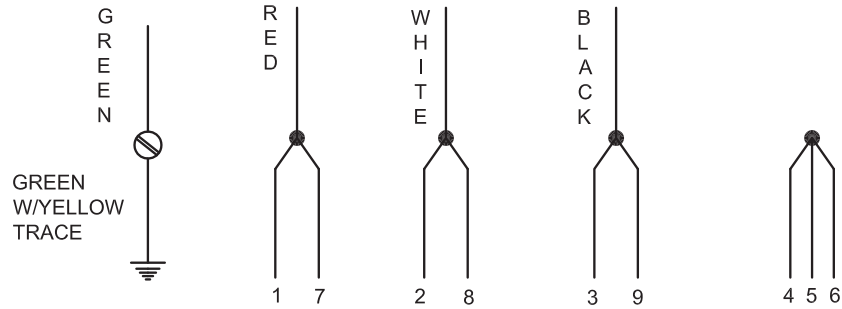


Diagram 9

230 Volt 0.75HP thru 25HP Three Phase

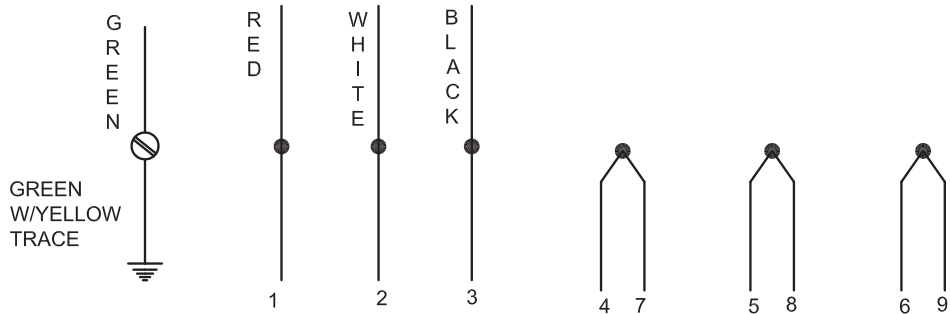
PUMP CABLE LEADS



STATOR LEADS

460 Volt 0.75HP thru 25HP Three Phase

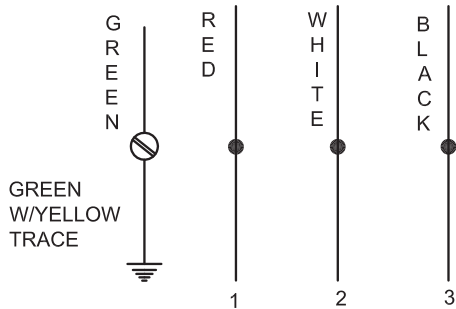
PUMP CABLE LEADS



STATOR LEADS

460 Volt 50HP Three Phase

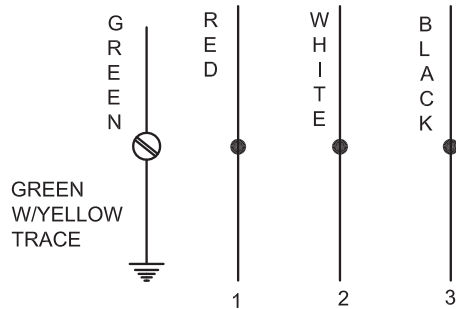
PUMP CABLE LEADS



STATOR LEADS

575 Volt Three Phase

PUMP CABLE LEADS



STATOR LEADS

Diagram 9

Trouble Shooting

CAUTION ! Always disconnect the pump from the electrical power source before handling. If the system fails to operate properly, carefully read instructions and perform maintenance recommendations. If operating problems persist, the following chart may be of assistance in identifying and correcting them:
MATCH "CAUSE" NUMBER WITH CORRELATING "CORRECTION" NUMBER.

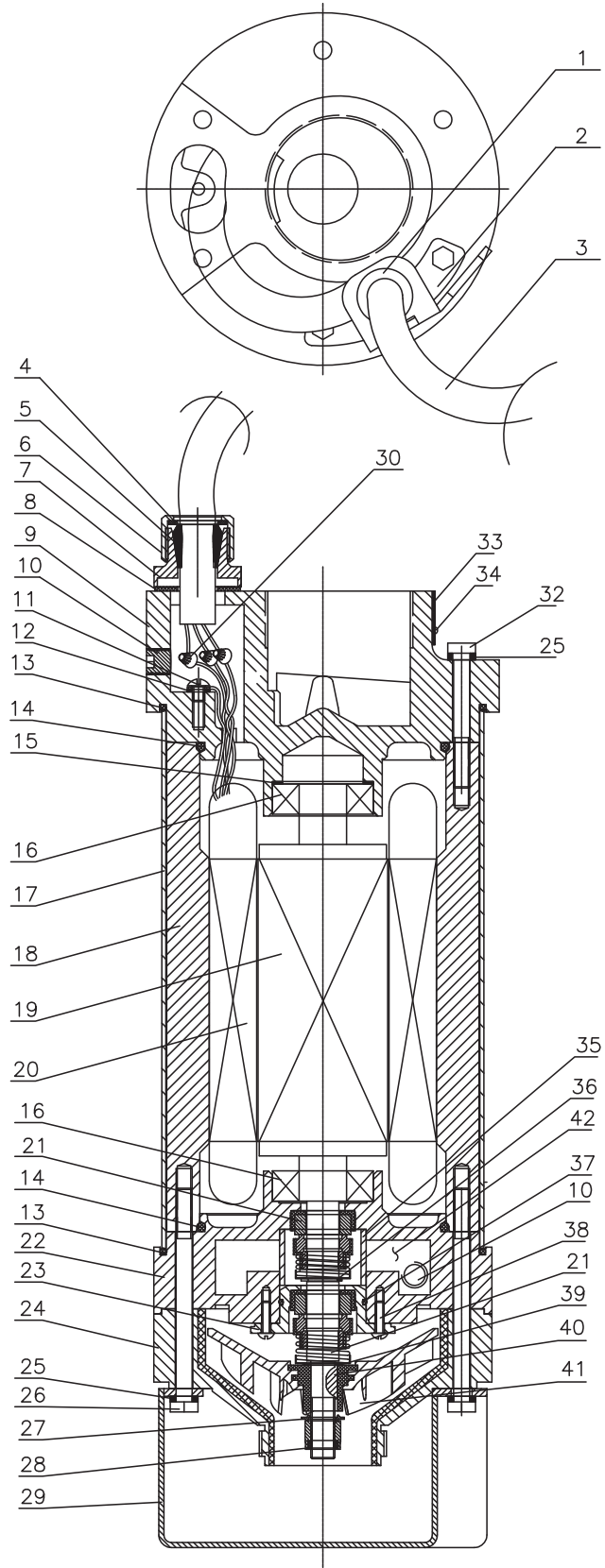
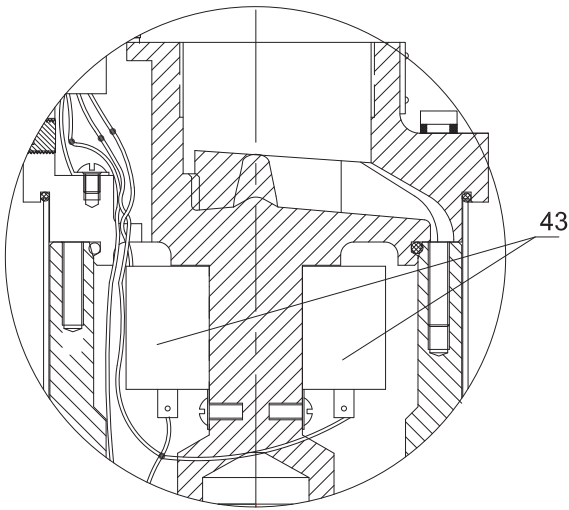
NOTE: Not all problems and correction will apply to each pump model.

PROBLEM	CAUSE	CORRECTION
Pump will not run.	1. Poor electrical connection, blown fuse, tripped breaker or other interruption of power; improper power supply. 2. Motor or switch inoperative (to isolate cause, go to manual operation of pump). 2a. Level control movement restricted. 2b. Level control will not activate pump or is defective when applicable. 2c. Defective motor. 3. Insufficient liquid level.	1. Check all electrical connections for security. Have electrician measure current in motor leads, if current is within $\pm 20\%$ of locked rotor Amps, impeller is probably locked. If current is 0, overload may be tripped. Remove power, allow pump to cool, then recheck current. 2a. Reposition pump or clean basin as required to provide adequate clearance for level control float.
Pump will not turn off.	2a. Level control movement restricted. 2b. Switch will not activate pump or is defective when applicable. 4. Excessive inflow or pump not properly sized for application. 9. Pump may be airlocked.	2b. Disconnect level control . Set ohmmeter for a low range, such as 100 ohms full scale and connect to level control leads. Actuate level control manually and check to see that ohmmeter shows zero ohms for closed switch and full scale for open switch. (Float Switch).
Pump hums but doesn't run.	1. Incorrect voltage. 8. Impeller jammed or loose on shaft, worn or damaged, impeller cavity or inlet plugged.	2c. Check winding insulation (MeggerTest) and winding resistance. If check is outside range, dry and recheck. If still defective, replace per service instructions.
Pump delivers insufficient capacity.	1. Incorrect voltage. 4. Excessive inflow or pump not properly sized for application. 5. Discharge restricted. 6. Check valve stuck closed or installed backwards. 7. Shut-off valve closed. 8. Impeller jammed or loose on shaft, worn or damaged, impeller cavity or inlet plugged. 9. Pump may be airlocked. 10. Pump running backwards.	3. Make sure liquid level is adequate suction level. 4. Recheck all sizing calculations to determine proper pump size. 5. Check discharge line for restrictions, including ice if line passes through or into cold areas. 6. Remove and examine check valve for proper installation and freedom of operation. 7. Open valve.
Pump cycles too frequently (with use of level control) or runs excessively.	6. Check valve stuck closed or installed backwards. 11. Fixtures are leaking.	8. Check impeller for freedom of operation, security and condition. Clean impeller cavity and inlet of any obstruction.
Pump shuts off (trips thermal overload protector). CAUTION! Pump may start unexpectedly. Disconnect power supply. NOTE: Some pumps DO NOT have thermal overload protection on the motor. Check pump specifications to determine.	1. Incorrect voltage. 8. Impeller jammed, loose on shaft, worn or damaged, impeller cavity or inlet plugged. 12. Excessive water temperature (internal protection only).	9. Loosen pipe union slightly to allow trapped air to escape. Verify water level is set so that impeller cavity is always flooded. 10. Check rotation. If power supply is three phase, reverse any two of three power supply leads to ensure proper impeller rotation.
Pump operates noisily or vibrates excessively.	2c. Worn bearings, motor shaft bent. 8. Debris in impeller cavity or broken impeller. 10. Pump running backwards. 13. Piping attachments to building structure too rigid or too loose.	11. Repair fixtures as required to eliminate excessive leakage into dewatering site. 12. Check pump temperature limits & fluid temperature. 13. Replace portion of discharge pipe with flexible connector.

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 - 3/4HP & 1HP

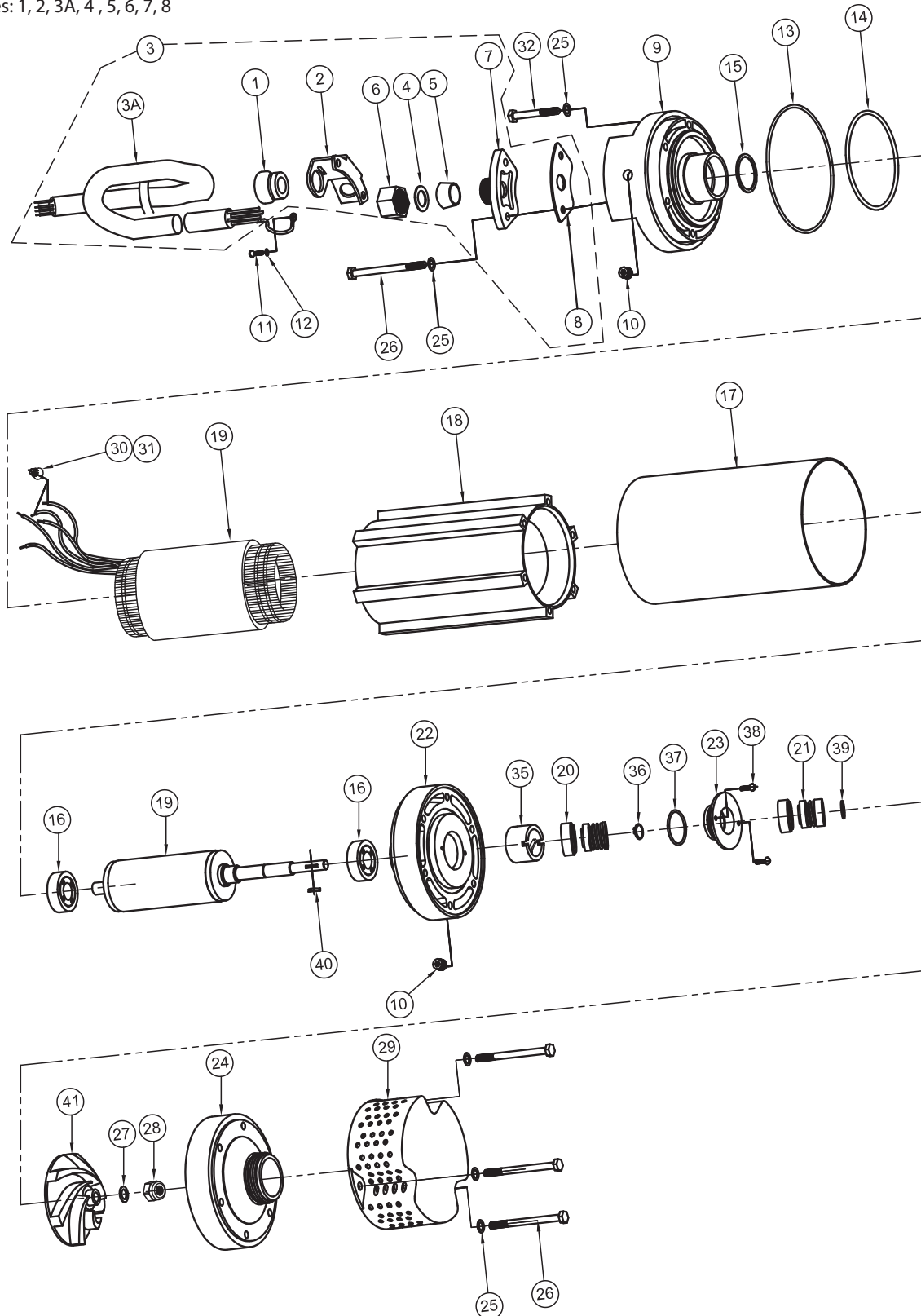
Capacitors For 01311 Self-Contained



Repair Parts - 3/4HP & 1HP

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 3 Includes: 1, 2, 3A, 4, 5, 6, 7, 8



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.

Parts List - 3/4HP & 1HP

NO.	QTY.	PART NO.	DESCRIPTION
1	1	V28003-2	Bushing, Strain Relief
2	1	V112560	Bracket, Cable Support
3	1	V100723-14	Assembly, Cable & Gland 115v 25' 14/4 SOW
		V100723-18	Assembly, Cable & Gland 230/460v 25' 14/4 SOW
		V100723-14A	Assembly, Cable & Gland, 25Ft, 115 w/plug 14/3 for, PF01311SCV
		V100723-65	Assembly, Cable & Gland, 65Ft, 115 w/plug 14/3 for, PF01311SCV
3a	1	V100958-5	Cable 25 ft 3/4hp & 1hp 115v 14/4 SOW
		V100892-25	Cable 25 ft 3/4hp & 1hp 230v & 460v 14/4 SOW
		V100958-65	Cable 65 ft, 115v w/plug 14/3, 1hp self contained model PF01311SCV
4	1	V21004-4	Washer, Cable Grip
5	1	V12022-1	Bushing, 14/4
		V12022-3	Bushing, 14/3
6	1	V12061-1	Nut, Cable Grip
7	1	V001900-2	Gland, Cable
8	1	V001902	Gasket, Terminal Box
9	1	V100700-2	Discharge Head 3/4hp & 1hp (Not for PF01311SCV model)
		V100700-3	Discharge Head 1hp self contained model PF01311SCV
10	2	312000	Plug, Pipe 1/8 NPT
11	1	303002	Screw, Rd. Hd. 10-32 x 1.25" Lg
12	1	331004	Lockwasher #10
13	2	V31003-158	O-Ring, 129mm OD, 2.7mm CS
14	2	V31003-239	O-Ring, 100mm OD, 3.5mm CS
15	1	V30001	Spring, Bearing Load
16	2	V112543	Bearing 6203-2Z
17	1	V615017-001 *	Outer Shell - 1 HP, PF01311A
		V615017-002 ⇄	Outer Shell - 3/4 HP & 1HP
		V615017-003	Outer Shell - 1HP self contained model PF01311SCV
18	1	V615016-001 *	Frame 1 hp, PF01311A
		V615016-002 ⇄	Frame 3/4 hp & 1hp
		V615016-003	Frame 1hp self contained model PF01311SCV
19	1	V088853 *	Motor 1hp 115v/230v 1ph (rotor "B" & stator "A")
		V088853-1SC	Motor 1hp 115/230v 1ph, self contained model PF01311SCV

NO.	QTY.	PART NO.	DESCRIPTION
19	1	V088854 *	Motor 1hp 230/460v 3ph (rotor "B" & stator "A")
		V088856 ⇄	Motor 3/4hp & 1hp, 115/230v 1ph (rotor & stator)
		V088857 ⇄	Motor 3/4hp & 1hp, 230/460v 3ph (rotor & stator)
20	1	V31036	Seal, shaft inboard, C/C/B
21	1	V31036C	Seal, shaft outboard, S/S/B
22	1	V615171-2FK	Diffuser 3/4 & 1hp
23	1	V615172	Retainer, Seal
24	1	V615170 ⇄	Suction Case 3/4hp & 1hp
		V615170A *	Suction Case 1hp "A" & "SC"
25	13	330001	Washer, Flat, 1/4" SS
26	8	300003	Screw, Cap, 1/4-20 x 3.25" Lg
27	1	V331005	Lockwasher, Impeller
28	1	V12015-2	Lock Nut, Impeller
29	1	V100000-4	Strainer
		V100000	Anti-Sludge Strainer, For PF01311SCV - OPTIONAL
30	2	V12014-1	Connector
31	1	V625-00163	Connector
32	4	300002	Screw, Cap, 1/4-20 x 2" Lg
33	1	V33241	Nameplate
34	2	V28002-1	Rivet
35	1	V2427493	Spiral Lubricator
36	1	V27002-50	Snap Rings
37	1	V31003-026	O-ring, 35mm OD, 1.7mm CS
38	2	303003	Screw, Rd. Hd, 6-31 x 1/2"
39	1	V21002-64	Shim .016", 1 set of 3
39	1	V21002-65	Shim .032", 1 set of 3
40	1	V353308-2	Key
41	1	V100200-2	Impeller 3/4hp - 3.58" OD, .48"
		V100200-3 ⇄	Impeller 1hp - 3.58" OD, .55"
		V100200-4 *	Impeller 1hp "A" & "SCV" 3.58" OD, .78"
42	2.6oz	Purchase Locally	#10, Non-Detergent Turbine, Seal Chamber Oil
43	2	V450001SC	Capacitor, 25mfd 300v, 1hp for PF01311SCV
44	1	V64VP1001	2" CamLock Fitting for PF01311SCV
45	1	V62VP1001	2" Pipe Nipple for PF01311SCV
46	1	V90ROPE001	Rope, 30Ft, 1/4" Nylon for PF01311SCV

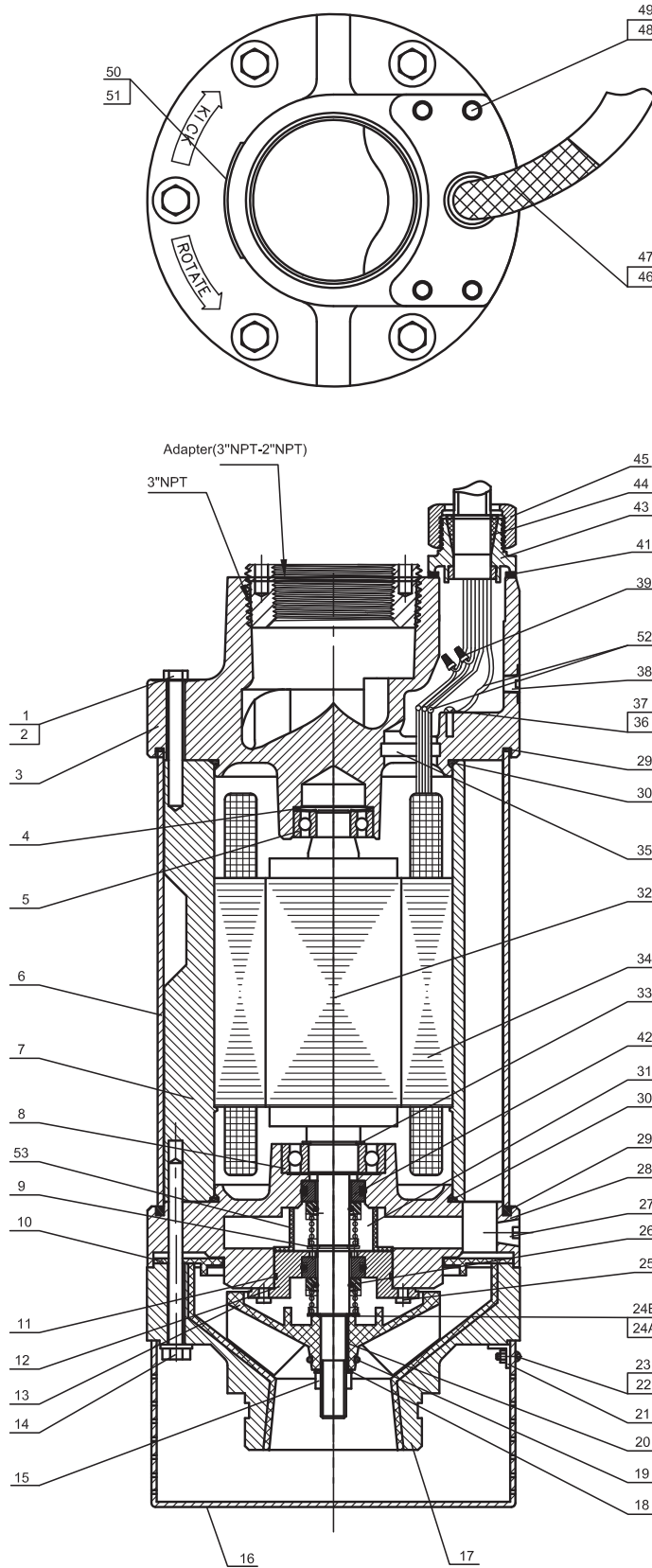
Note: O-ring & snap ring sizes are Millimeters.

IMPORTANT! - 1Hp, Pump Models PF01311, PF01312, PF01332 & PF01334, Dated **BEFORE December 2009** (Mfg Date on name plate "MC"), will use the parts indicated with (*). These items include #17, #18, #19, #24 & #41. These pumps Dated **AFTER December 2009** ("AD"), will be labeled as Model Numbers PF01311A, PF01312A, PF01332A & PF01334A and will use the parts indicated with (*). Pump Models PF01311, PF01312, PF01332 & PF01334 Dated **AFTER December 2009** ("AD"), will use the parts indicated with (⇄).



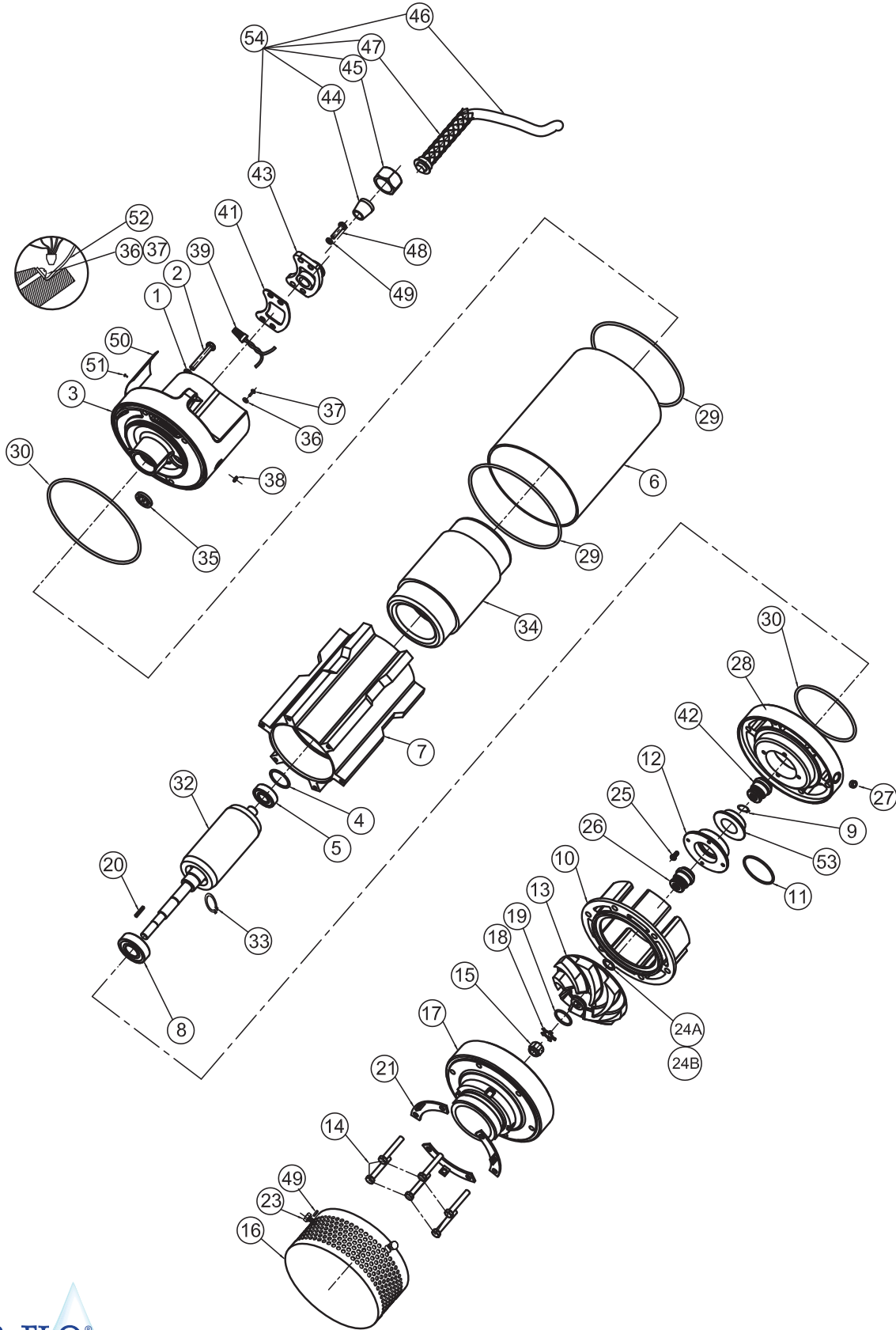
Repair Parts - 2, 2-1/2, 2-3/4, 3-1/2 & 5HP

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.



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 - 2, 2-1/2, 2-3/4, 3-1/2 & 5HP



Parts List - 2, 2-1/2, 2-3/4, 3-1/2 & 5HP

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.

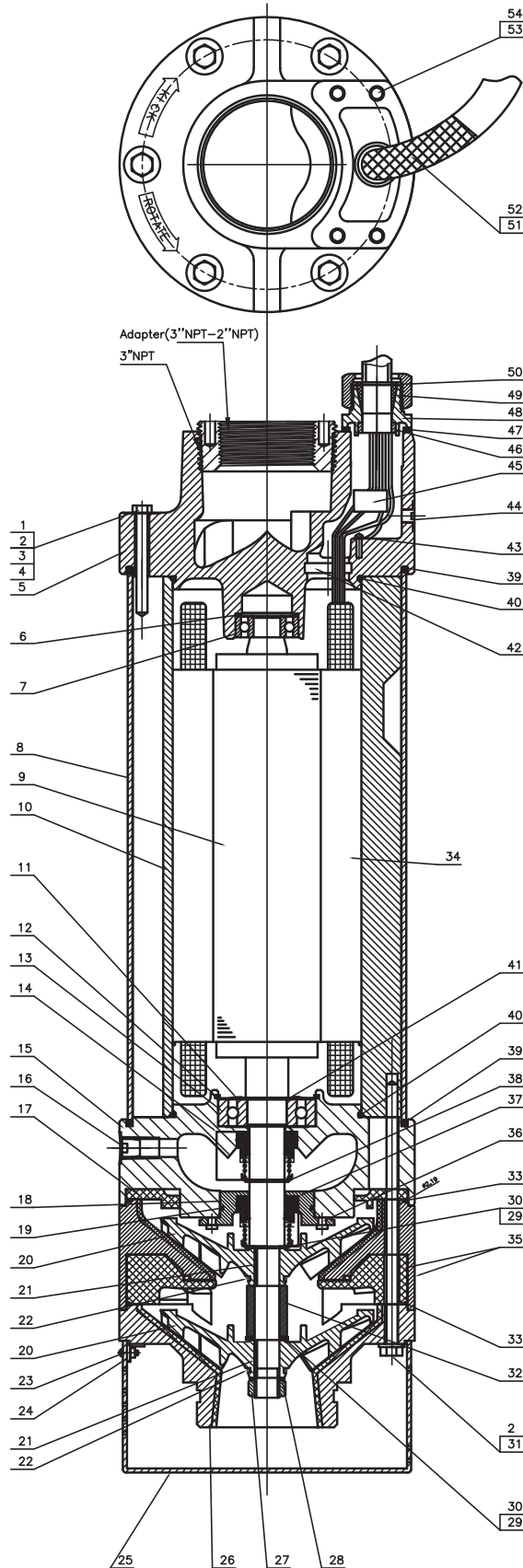
NO.	QTY.	PART NO.	DESCRIPTION
1	11	330002	Washer, Flat
2	5	301003	Screw, Hex Hd
3	1	V250700	Discharge Head 3" NPT w/ 2" NPT Adaptor V25009
4	2	V30001	Spring, Bearing Load
5	1	V112543	Bearing 6203-2Z
6	1	V250555	Outer Shell 2hp, 2-1/2hp & 2-3/4hp
	1	V500555	Outer Shell 3-1/2hp & 5hp
	1	V511555	Outer Shell 5hp 230 1ph
7	1	V250500	Frame 2hp, 2-1/2hp & 2-3/4hp
	1	V500500	Frame 3-1/2hp & 5hp
	1	V511500	Frame 5hp 230 1ph
8	1	V112544	Bearing 6205-2Z
9	1	V27004-59	Snap Ring
10	1	V501305	Wear Plate
11	1	V31003-035	O-Ring, 56mm ID, 1.8mm CS
12	1	V500311	Retainer, Seal
13	1	V200200-6	Impeller 2hp 5.315"
	1	V250200-6	Impeller 2-1/2hp HH 5.315"
	1	V275200-2	Impeller 2-1/2hp HV & 2-3/4hp 4.217"
	1	V350200-7	Impeller 3-1/2hp 5.220"
	1	V500200-6	Impeller 5hp 5.315"
14	6	301000	Screw, Hex Hd
15	2	V20002-38	Lock Nut, Impeller
16	1	V500000-1	Strainer
17	1	V250100-1	Suction Case 2hp, 2-1/2hp-HH
	1	V500100-1	Suction Case 2-1/2hp-HV, 2-3/4hp & 5hp
	1	V350100-1	Suction Case 3-1/2hp
18	1	V500210	Lockwasher, Impeller
19	1	V31003-117	O-Ring, 20.5mm ID, 2.6mm CS
20	1	V500407	Key, .093 x .13 x .688 Lg
21	3	V500003	Bracket
22	1	330003	Lockwasher
23	3	302000	Screw, Pan Hd
24a	1	V21010-2	Shim .032", 1 set of 4
24b	1	V21010-1	Shim .016", 1 set of 4
25	4	303001	Screw, Rd. Hd
26	1	V500350	Seal, Outboard Shaft
27	1	312001	Plug, Pipe NPT
28	1	V500300-2	Diffuser
29	2	V31003-260	O-Ring, 175mm OD, 3.5mm CS
30	2	V31003-246	O-Ring, 113.9mm ID, 3.5mm CS

NO.	QTY.	PART NO.	DESCRIPTION
31	4.6 oz	Purchase Locally	#10 Oil, Non-Detergent Turbine, Seal Chamber
32	1	V250400	Rotor-2hp 115/230v 1Ph, 2-1/2 & 2-3/4hp 230/460v 3Ph
	1	V500400	Rotor-3-1/2hp 230v 1Ph 5hp 230/460v 3Ph
	1	V511400	Rotor 5hp 230v 1ph
33	1	V27004-98	Retaining Ring
34	1	V250600	Stator-2-1/2hp 230v/460v 3Ph
	1	V500600	Stator - 5hp 230/460v 3Ph
	1	V200600	Stator 2hp 230v 1Ph
	1	V200600-15	Stator 2hp 115v 1Ph
	1	V200600-34	Stator 2-3/4hp 230v 1Ph
	1	V350612	Stator 3-1/2hp 230v 1Ph
35	1	V500750	Stator Dam 2-1/2hp 230/460v 3Ph, 5hp 230/460v 3Ph
	1	V500750-2	Stator Dam 2hp 115v 1Ph, 2hp 230v 1Ph, 2-3/4hp & 3-1/2hp 230v 1Ph
36	1	303002	Screw, Rd. Hd
37	1	331004	Lockwasher
38	1	312000	Plug, Pipe NPT
39	2	V12026-1	Connector, 1 Phase
	6	V12026-2	Connector, 3 Phase
41	1	V2-31003-0025	Gasket
42	1	V31001	Seal, Inboard Shaft
43	1	V500711-1	Gland, Cable
44	1	V12022-2	Bushing
45	1	V12062	Nut, Cable Grip
46	1	V350887-50	Cable - 50ft 12/4 SOW
47	1	V12020-2A	Grip, Cable
48	4	301001	Screw, Hex Hd.
49	4	330001	Washer, Flat
50	1	V33241	Nameplate
51	4	V28002-3	Rivet
52	1	V33012	Tag, Ground-Lead
53	1	V2427494	Spiral Lubricator
54	1	V500710-2	Assembly Cable & Gland 50ft, SOW Includes Item #'s 43, 44, 45, 46, 47

Note: O-ring & snap ring sizes are Milimeters.

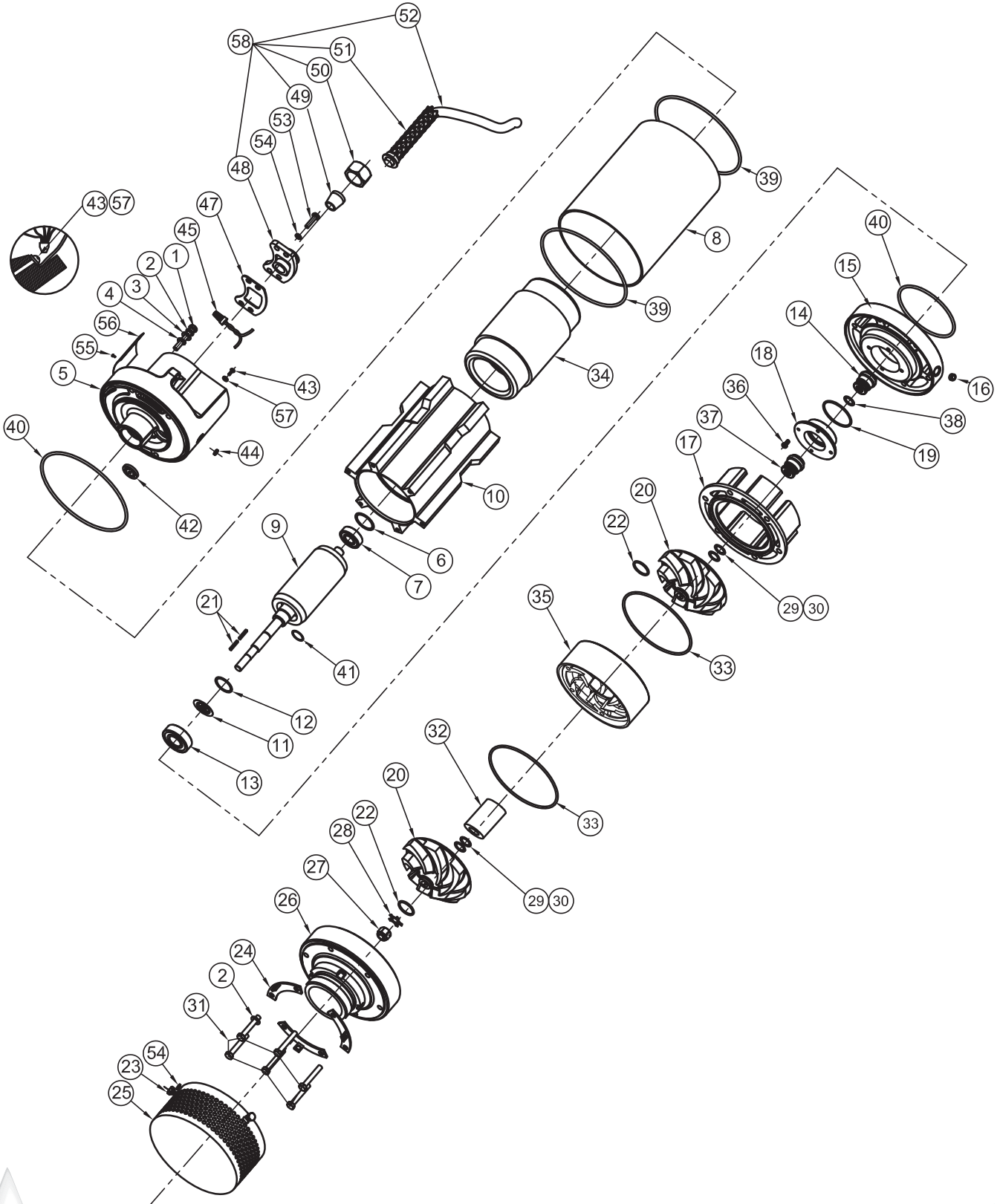
For Repair Part Please supply: Model Number and MFG Date as shown on Name Plate, and Part Description and Part Number as shown on Parts List.

Repair Parts - 5HP, 2 Stage



Repair Parts - 5HP, 2 Stage

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.



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 - 5HP, 2 Stage

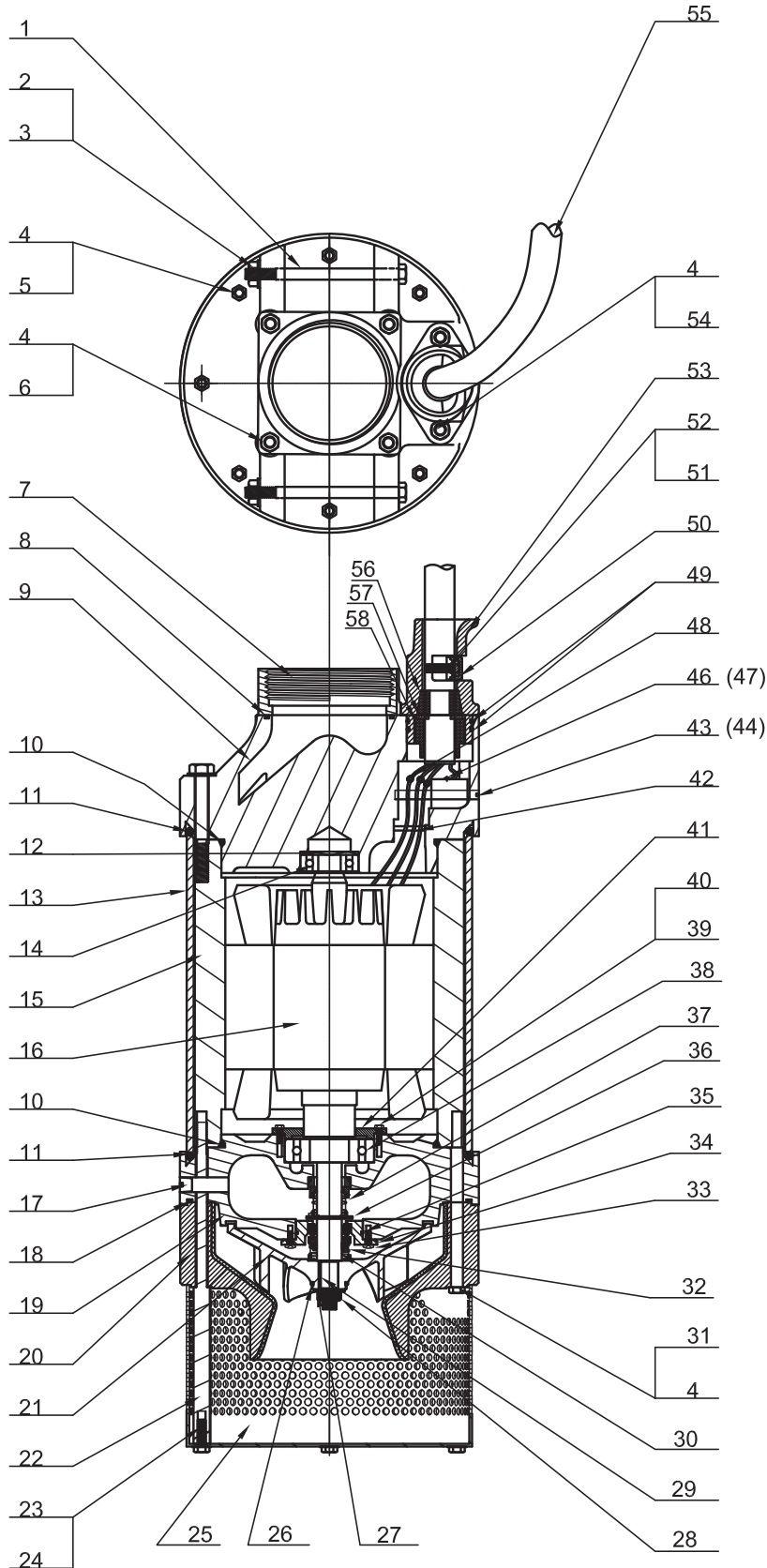
NO.	QTY.	PART NO.	DESCRIPTION
1	5	300009	Capscrew 5/16-18 x 2.5lg
2	11	330005	Flat washer 5/16
3	1	V605012	Lockwasher
4	5	V31009-011	Quad Ring
5	1	V250700	Discharge Head 3" NPT w/2" NPT Adaptor V25009
6	1	V30002-6	Bearing Loading Spring
7	1	V112543	Bearing 6203-2Z
8	1	V500555	Outer Shell
9	1	V550400	Rotor 5hp, 230v, 3ph
9	1	V550400	Rotor 5hp, 460v, 3ph
9	1	V550400	Rotor 5hp, 575v, 3ph
10	1	V500500	Frame
11	1	V30009-4	Nilos Bearing Ring
12	1	V27006-244	Snap ring
13	1	112546	Bearing, Ball 6305-2Z
14	1	V31006	Shaft Seal, Inboard
15	1	V550300-2	Upper Diffuser
16	1	312001	Pipe Plug, 1/4"
17	1	V501305	Wear Plate, Poly
18	1	V815310	Seal Retainer
19	1	V31003-035	O-ring, 56 ID, 1.8 CS
20	2	V550200-2	Impeller, Stainless Upper and Lower 5.315"
21	2	V500407	Key, .093 x .13 x .688 lg
22	2	V31003-117	O-Ring, 20.5 ID, 2.6 CS
23	3	302000	Pan Hd Screw
24	3	V500003	Bracket
25	1	V500000-1	Strainer
26	1	V550100	Suction Case
27	1	V20002-43	Lock Nut, Impeller
28	1	V550211	Lockwasher, Impeller
29	1	V815210-1	Shim, 0.16", 1 set of 10
30	1	V815210-2	Shim, .032", 1 set of 10
31	6	300010	Capscrew, 5/16-18 x6.5
32	1	V550209	Spacer
33	2	V31003-166	O-Ring, 171.12 ID, 2.6 CS
34	1	V500600	Stator 5hp, 230v, 3ph
34	1	V500600	Stator 5hp, 460v, 3ph
34	1	V500635	Stator 5hp, 575v, 3ph

NO.	QTY.	PART NO.	DESCRIPTION
35	1	V550303	Lower Diffuser Assy Includes, Alum. Ring & Plastic Liner
36	4	303001	Rh. Hd Screw
37	1	V815350	Shaft Seal, Outboard, s/s/B
38	1	V27002-87	Retaining Ring
39	2	V31003-260	O-ring, 175 OD, 3.5 CS
40	2	V31003-246	O-ring, 113.9 ID, 3.5 CS
41	1	V27004-98	Snap ring
42	1	V500750	Stator dam 230/460 v
		V500750-1	Stator dam 575v
43	1	300002	Rd hd Screw
44	1	312000	Pipe Plug
45	2	V12026-1	Connector, 1 Phase
	6	V12026-2	Connector, 3 Phase
46	A/R	Purchase Locally	Epoxy
47	1	V2-31003-0025	Gasket
48	1	V500711-1	Gland, cable
49	1	V12022-2	Bushing
50	1	V12062	Cable Grip Nut
51	1	V12020-2A	Cable Grip
52	1	V350887-50	Cable 50 ft 12/4 SOW
53	2	300008	Capscrew
54	3	330001	Lockwasher
55	4	V28002-1	Rivet
56	1	V33241	Nameplate
57	1	331004	Lockwasher
58	1	V500710-2	Cable & Gland Assy Includes Item #'s 48, 49, 50, 51, 52
	4.6 oz	Purchase Locally	#10 Oil, Non-Detergent Turbine, Seal Chamber

(*) - Item 58 includes: 48, 49, 50, 51, 52.
Note: O-ring & snap ring sizes are Millimeters.

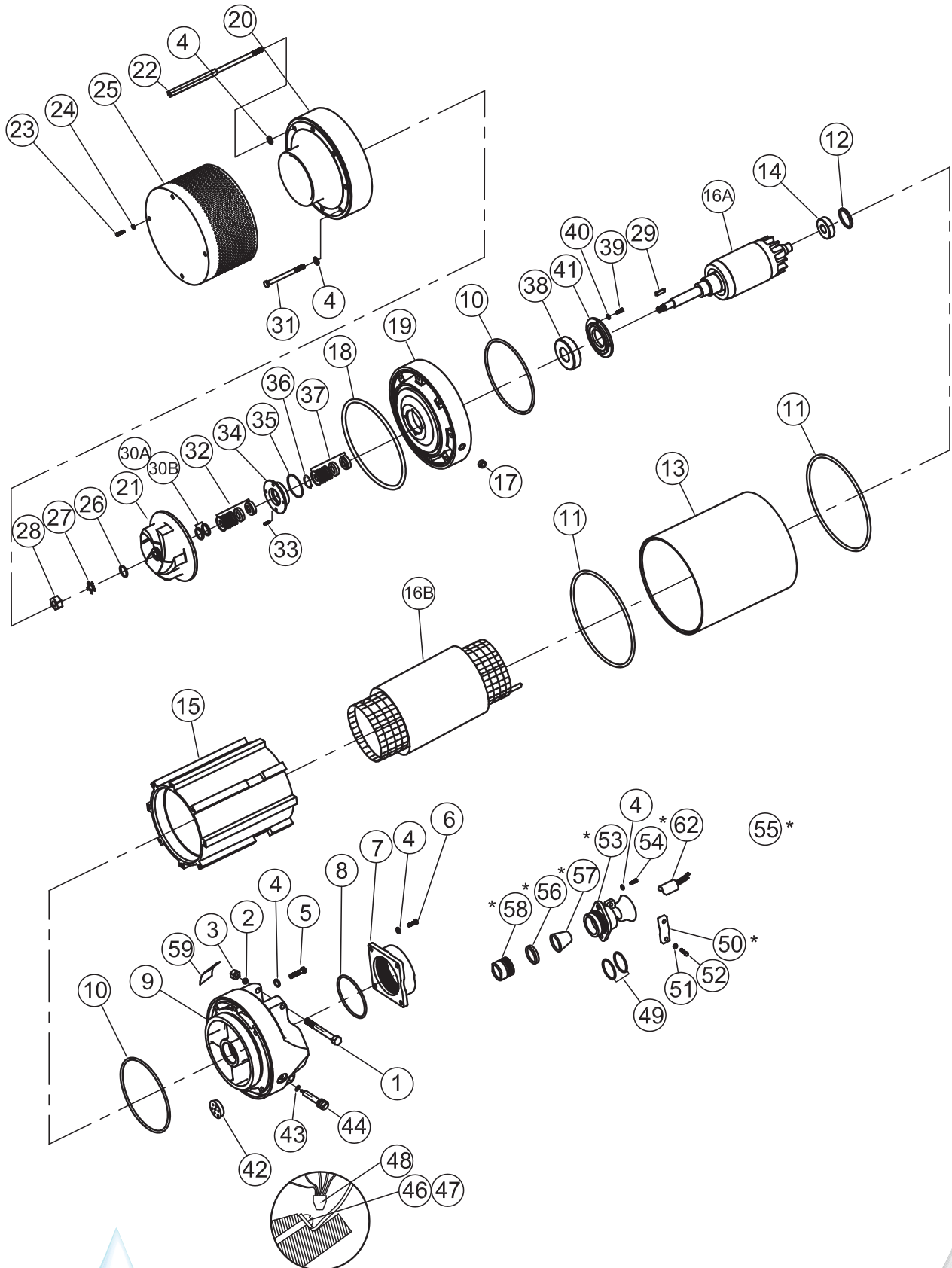
Repair Parts - 6HP, 10HP, 15HP

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.



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 - 6HP, 10HP, 15HP



Repair Parts - 6HP, 10HP, 15HP

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.

NO.	QTY.	PART NO.	DESCRIPTION
1	2	301004	Screw, Hex hd
2	2	331002	Lock Washer
3	2	310000	Nut, Hex
4*	21	330004	Washer, Flat
5	7	300005	Screw, Cap
6	4	301007	Screw, Hex Hd
7	1	V815720	Adapter, Discharge
8	1	V31003-244	O-Ring, 115 OD, 3.5 CS
9	1	V615700	Discharge Head
10	2	V31003-366	O-Ring, 197 OD, 5.3 CS
11	2	V31003-448	O-Ring, 254 OD, 7 CS
12	2	V30002-3	Spring, Bearing Load
13	1	V810555	Shell, Outer- 6 & 10hp
	1	V815555	Shell, Outer- 15hp
14	1	V34007	Bearing 6304-2Z
15	1	V610500-1	Frame - 6 & 10hp
	1	V615500-2	Frame - 15hp
16A	1	V610400	Rotor - 6 & 10hp 460v/230v
16A	1	V615400	Rotor - 15hp 230v/460v
16B	1	V600600	Stator - 6hp 230v
16B	1	V810630	Stator - 10hp 460v/230v
16B	1	V815630	Stator - 15hp 230v/460v
17	1	312002	Plug, pipe 1/2" NPT
18	1	V31003-273	O-Ring, 251.8 OD, 3.6 CS
19	1	V815300	Diffuser
20	1	V810105	Suction Case 10hp-HH
	1	V815100	Suction Case 10hp & 15hp HV
	1	V815105	Suction Case 6 & 15hp-HH
21	1	V600200-6	Impeller 6hp, 7.154"
	1	V810203-3	Impeller 10hp-HH 7.795"
	1	V810200-2	Impeller 10hp-HV 7.154"
	1	V815203-2	Impeller 15hp-HH 7.795"
	1	V815200-2	Impeller 15hp-HV 7.146"
22	4	V815010	Bolt, Strainer
23	4	301002	Screw, Hex hd
24	4	330005	Washer, Flat
25	1	V815000-1	Strainer
26	1	V31003-122	O-Ring, 34 OD, 3.1 CS
27	1	V815211	Lockwasher, impeller
28	1	V20002-38	Lock Nut, impeller
29	1	V815410	Key, .124 sq x .878 lg

NO.	QTY.	PART NO.	DESCRIPTION
30A	1	V815210-1	Shim .016", 1 set of 10
30B	1	V815210-2	Shim .032", 1 set of 10
31	4	300006	Screw, Cap HH
	4	300007	Screw, Cap HV & 6hp
32	1	V815350	Shaft Seal, Outboard
33	4	303001	Screw, Rd. Hd -4 per bag
34	1	V815310	Retainer, Seal
35	1	V31003-035	O-Ring, 56 ID, 1.8 CS
36	1	V27002-87	Snap Ring, 20.5 ID, 1 Thk
37	1	V31006	Shaft Seal, Inboard
38	1	V34004	Bearing, 6307
39	4	301005	Screw, Hex Hd. Cap
40	4	331000	Lock Washer
41	1	V815311	Retainer, Bearing
42	1	V840752	Stator Dam
43	1	V31003-015	O-Ring, 13.2 ID, 1.9 CS
44	1	V615758	Plug Assembly
46	1	303000	Screw, Rd. Hd.
47	1	331003	Lockwasher
48	3	V12029	Connector, 1 Phase
	4	V12029-1	Connector, 230V, 3 Ph
	6	V12029-2	Connector, 460V, 3 Ph
49*	2	V31003-138	O-Ring, 53.6 ID, 2.6 CS
50*	1	V840760-4	Clamp, Cable
51*	2	330005	Washer, Flat
52*	2	301009	Screw, Hex Hd.
53*	1	V840711	Gland, Cable
54*	2	300004	Screw, Cap
55	1	V600710	Assembly, cable & gland, 6HP, 230V, 1Ph, 6/4
	1	V840710-44	Assembly, cable & gland, 10 & 15HP, 230V, 6/4
	1	V840710-5	Assembly, cable & gland, 10 & 15HP, 460V, 12/4
56*	1	V840759-1	Grip, Cable Washer 230v
	1	V840759-2	Grip, Cable Washer 460v
57*	1	V840751-3	Bushing 230v
	1	V840751-6	Bushing 460v
58*	1	V840755	Nut, Cable Grip
62*	1	V600112-50	Cable - 50ft 230/1, 6/4 SOW
	1	V810893-50	Cable - 50ft 230v 6/4 SOW
	1	V350887-50	Cable - 50ft 460v 12/4 SOW
	25.0 oz	Purchase Locally	#10 Oil, Non-Detergent Turbine, Seal Chamber

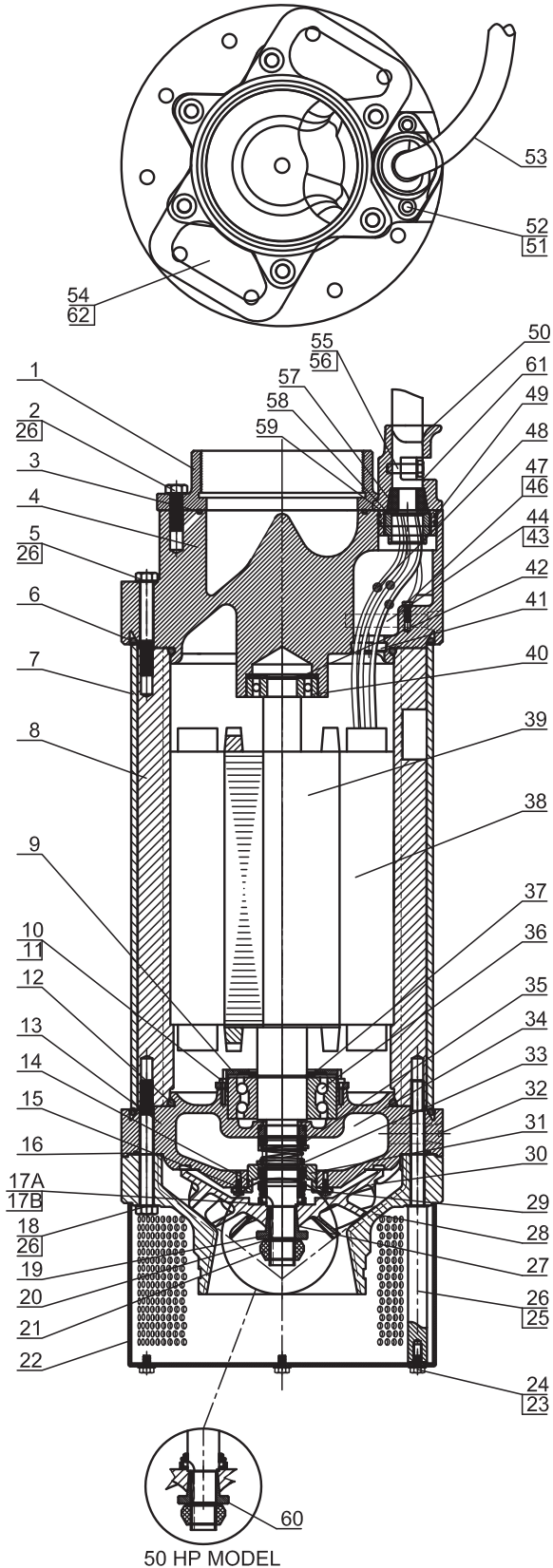
(*) - Item 55 includes: 4 (Qty 2), 49, 50, 51, 52, 53, 54, 56, 57, 58, 62.

Note: O-ring & snap ring sizes are Milimeters.



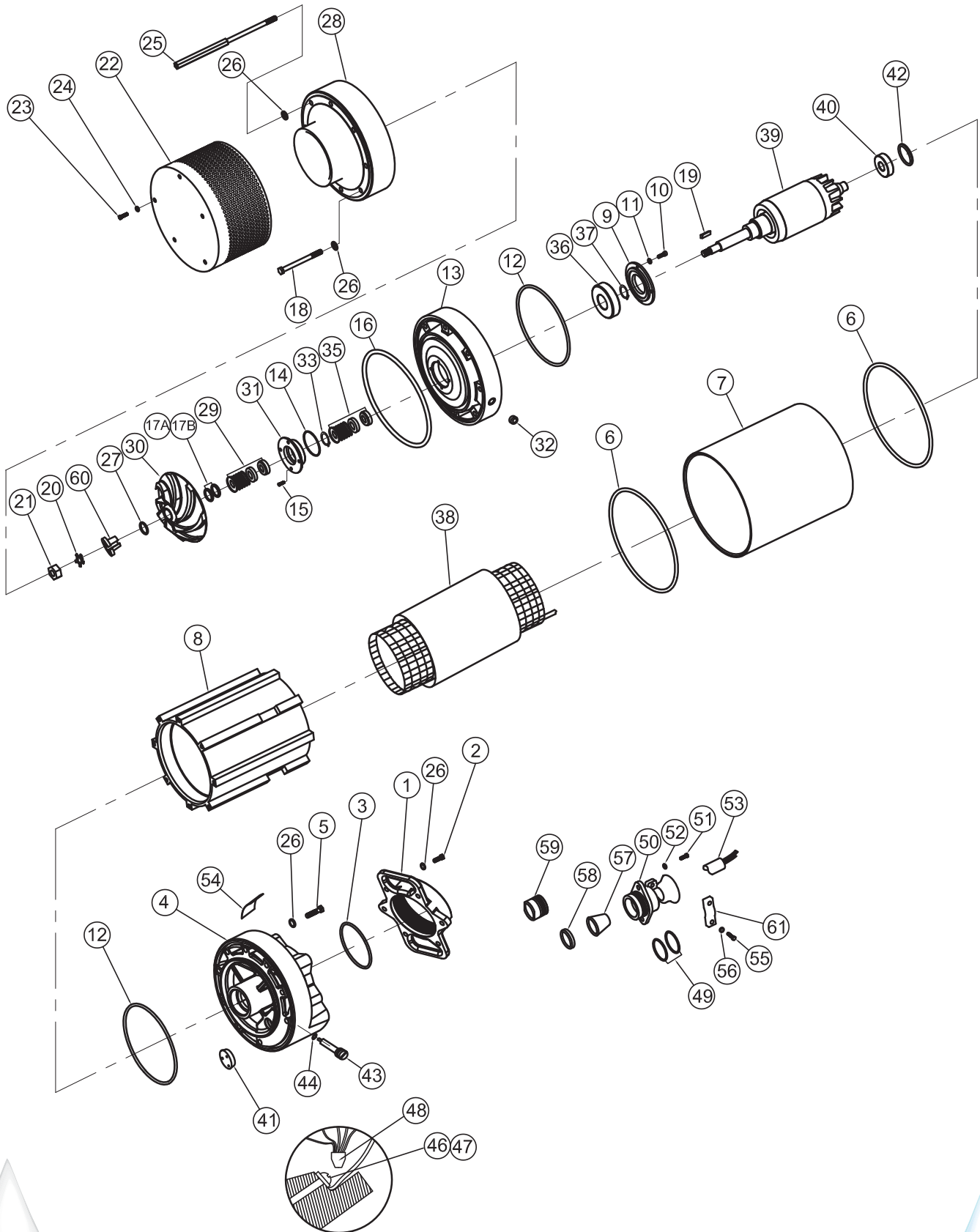
For Repair Part Please supply: Model Number and MFG Date as shown on Name Plate, and Part Description and Part Number as shown on Parts List.

Repair Parts - 25HP & 50HP



Repair Parts - 25HP & 50HP

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.



PF82500, PF85000 Series

Submersible Dewatering Pumps

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.

Parts List - 25HP & 50HP

NO.	QTY.	PART NO.	DESCRIPTION
1	1	V840732	Adapter, Discharge
2	6	301007	Screw, Hex Hd.
3	1	V31003-260	O-Ring, 163 ID, 3.5 CS
4	1	V840700	Discharge Head
5	9	300000	Screw, Cap
6	2	V6458	O-Ring, 293.5 ID, 7 CS
7	1	V840555-1	Shell, Outer 25hp
7	1	V850555	Shell, Outer 50hp
8	1	V840500	Frame 25hp
	1	V850500	Frame 50hp
9	1	V840313	Retainer, Bearing
10	4	301006	Screw, Hex Hd. Cap
11	4	331001	Lockwasher
12	2	V31003-446	O-Ring, 218 ID, 7 CS
13	1	V840300	Diffuser
14	1	V31003-038	O-Ring, 66.6 ID, 1.8 CS
15	4	303001	Screw, Rd. Hd
16	1	V31003-277	O-Ring, 292.2 ID, 3 CS
17A	1 set 10	V840210-2	Shim .010" x .79" ID, 25hp
17B	1 set 10	V840210-3	Shim .020" x .79" ID, 25hp
17A	1 set 4	V21003-43	Shim .020" x 1.043 ID, 50hp
17B	1 set 4	V21003-44	Shim .010" x 1.043" ID, 50hp
18	4	300001	Screw, Cap HH
	4	300007	Screw, Hd HV
19	1	V840410	Key .15" sq x .80" lg, 25hp
	1	V850410	Key .25" sq x 1" lg. 50hp
20	1	V840211	Lockwasher, Impeller 25hp
	1	V21016	Lockwasher, Impeller 50hp
21	2	V20002-43	Lock Nut, Impeller 25hp
	1	V850209	Lock Nut, Impeller 50hp
22	1	V825000-1	Strainer
23	5	301002	Screw, Hex Hd
24	5	330005	Washer, Flat
25	5	V825010	Bolt, Strainer
26	25	330003	Washer, Flat
27	1	V31003-122	O-Ring, 34 OD, 3.1 CS, 25hp (for 25hp impeller only)
28	1	V840100-4	Suction Case 25hp & 50hp - HH
28	1	V840100	Suction Case 25hp - HV
28	1	V840100-8	Suction Case 50hp - HV
29	1	V840350	Seal, Outboard 25HP & 50HP

NO.	QTY.	PART NO.	DESCRIPTION
30	1	V825203-1	Impeller 25hp HH 8.65"
30	1	V825200-2	Impeller 25hp HV 8.02"
30	1	V850203-2	Impeller 50hp HH 8.46"
30	1	V850200-2	Impeller 50hp HV 8.02"
31	1	V840310	Retainer, Seal
32	1	312002	Plug, Pipe NPT
33	1	V27002-125	Snap Ring, 29.6 ID, 1.2 Thk
34	32oz	Purchase Locally	#10 Oil Non-Detergent Turbine, Seal Chamber
35	1	V31020	Shaft Seal, Inboard
36	1	V34016	Bearing, Angular 5310A-2Z
37	1	V27002-200	Snap Ring, 45.8 id, 2 CS
38	1	V825630	Stator 25hp, 230v
38	1	V850634	Stator 50hp, 460v
39	1	V825408	Rotor 25hp, 230v, 460v, 575v
39	1	V850400	Rotor 50hp, 460v
40	1	V34013	Bearing 6306-2Z
41	1	V840750	Stator Dam 25 Hp
41	1	V840750-1	Stator Dam 50 hp
42	1	V30002-5	Spring, Bearing Load
43	1	V840758	Plug Assembly
44	1	V31003-015	O-Ring, 13.2 ID, 1.9 CS (for air plug 25hp & 50hp)
46	1	303000	Screw, Rd Hd
47	1	331003	Lockwasher
48	4	V12026-1	Connector, 230V, 3 Ph
	6	V12026-2	Connector, 460V, 3 Ph
49*	2	V31003-138	O-Ring, 53.6 ID, 2.6 CS
50*	1	V840715	Gland, Cable
51*	2	301008	Screw, Hec Hd.
52*	2	330005	Washer, Flat
53*	1	V825907-50	Cable - 50ft 4/4 SOW
54	1	Contact Factory	Nameplate
55*	2	300004	Screw, Cap
56*	2	330004	Washer, Flat
57*	1	V840749-2	Bushing
58*	1	V840759-2	Grip, Cable Washer
59*	1	V840748	Cable Grip Nut
60	1	V850208-1	Bushing, taper lock 50hp
61*	1	V840760-4	Clamp, Cable
62	4	Contact Factory	Rivets
63	1	V840710-10	Assembly, Cable & Gland *

(*) - Item 63 includes: 49, 50, 51, 52, 53, 55, 56, 57, 58, 59, 61.

Note: O-ring & snap ring sizes are Millimeters.

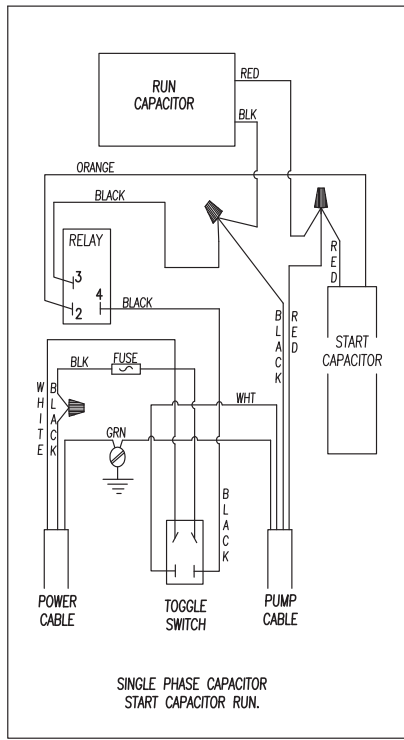


Hardware Parts List

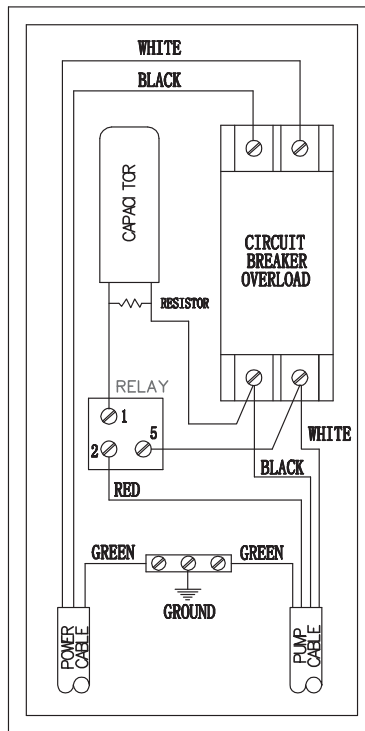
PART NO.	DESCRIPTION	SIZE	MATERIAL
300000	Screw, Cap	1/2-13 x 3.75" lg	Stainless Steel
300001	Screw, Cap	1/2-13 x 5.00" lg	Stainless Steel
300002	Screw, Cap	1/4-20 x 2.00" lg	Stainless Steel
300003	Screw, Cap	1/4-20 x 3.25" lg	Stainless Steel
300004	Screw, Cap	3/8-16 x 1.00" lg	Stainless Steel
300005	Screw, Cap	3/8-16 x 3.25" lg	Stainless Steel
300006	Screw, Cap	3/8-16 x 5.00 lg	Stainless Steel
300007	Screw, Cap	3/8-16 x 5.50 lg	Stainless Steel
300008	Screw, Cap	1/4-20 x .875" lg	Stainless Steel
300009	Screw, Cap	5/16-18 x 2.50" lg	Stainless Steel
300010	Screw, Cap	5/16-18 x 6.50" lg	Stainless Steel
301000	Screw, Hex Hd.	5/16-18 x 3.50" lg	Stainless Steel
301001	Screw, Hex Hd.	.25-20 x .875" lg	Stainless Steel
301002	Screw, Hex Hd.	5/16-18 x .50 lg	Stainless Steel
301003	Screw, Hex Hd.	5/16-18 x 2.25" lg	Stainless Steel
301004	Screw, Hex Hd. Cap	1/2-13 x 5.50" lg	Stainless Steel
301005	Screw, Hex Hd. Cap	10-24 x .625" lg	Zinc Plated
301006	Screw, Hex Hd. Cap	10-24 x .625" lg	Stainless Steel
301007	Screw, Hex Hd. Cap	3/8-16 x 1.125" lg	Stainless Steel
301008	Screw, Hex Hd. Cap	5/16-18 x 1.25 lg	Stainless Steel
301009	Screw, Hex Hd. Cap	5/16-18 x 1.50 lg	Stainless Steel
302000	Screw, Pan Hd.	1/2-20 x .50" lg	Stainless Steel
303000	Screw, Rd. Hd.	1/4-20 x .375" lg	Bronze
303001	Screw, Rd. Hd.	10-24 x .50" lg	Stainless Steel
303002	Screw, Rd. Hd.	10-32 x .25" lg	Bronze
303003	Screw, Rd. Hd.	6-31 x .50" lg	Stainless Steel
310000	Nut, Hex	1/2"-13	Stainless Steel
312000	Plug, Pipe NPT	.125	Stainless Steel
312001	Plug, Pipe NPT	.25	Stainless Steel
312002	Plug, Pipe NPT	1/2"	Stainless Steel
330001	Washer, Flat	.25	Stainless Steel
330002	Washer, Flat	.32	Stainless Steel
330003	Washer, Flat	1/2"	Stainless Steel
330004	Washer, Flat	3/8"	Stainless Steel
330005	Washer, Flat	5/16"	Stainless Steel
330006	Washer, Flat	.25	Zinc Plated
331000	Lockwasher	#10	Cad Plated
331001	Lockwasher	#10	Stainless Steel
331002	Lockwasher	1/2"	Stainless Steel
331003	Lockwasher	1/4"	Cad Plated
331004	Lockwasher	10	Steel
331005	Lockwasher, Impeller	3/8"	Stainless Steel

Control Box Schematics

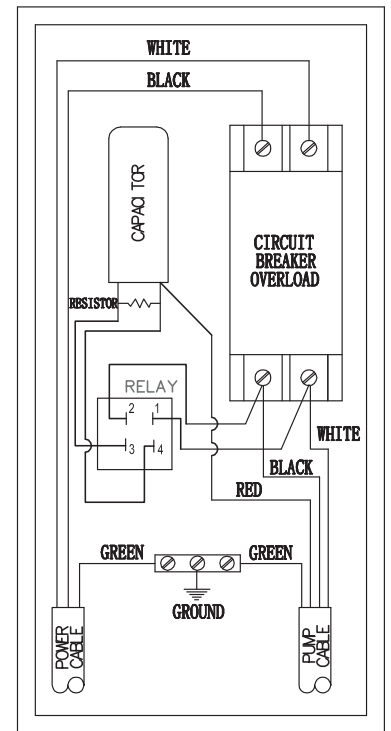
0.75hp-1hp (115 & 230 Volt) Single Phase



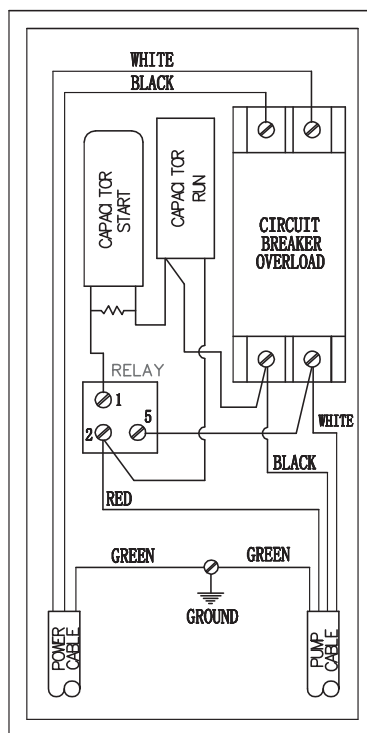
2HP 230 Volt Single Phase



2HP 115 Volt Single Phase



2.75, 3.5, 5 & 6HP Single Phase (ONLY)



230,460 & 575 Volts Three Phase

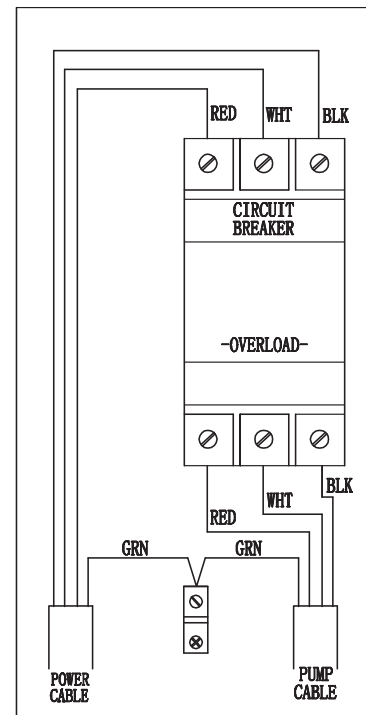
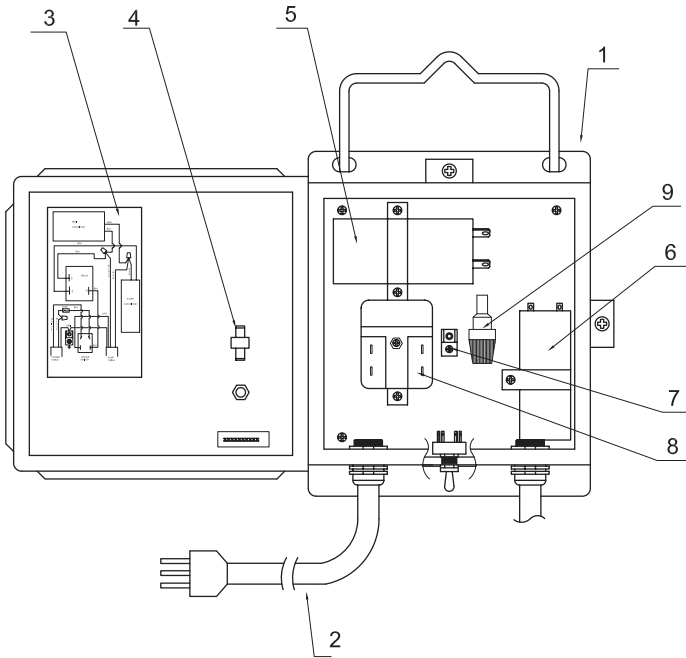


Diagram 20

Control Box Components

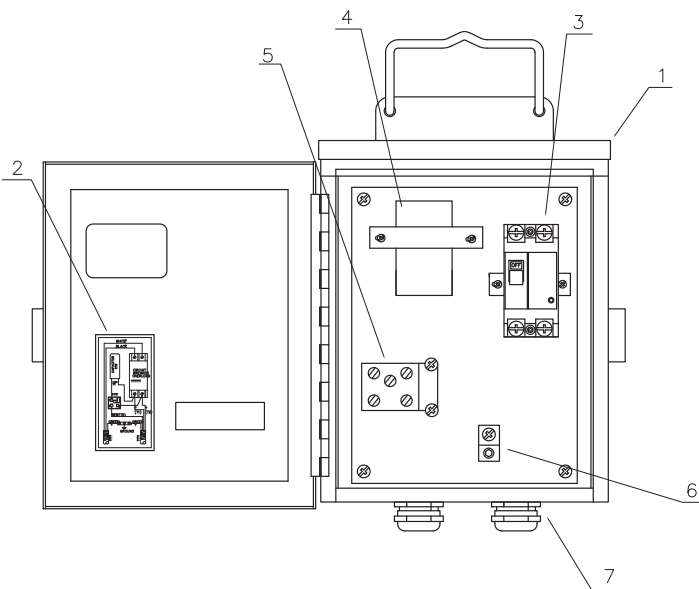
0.75 - 1HP 1Phase Control



Item No.	Name	Description	Part No.
1	Enclosure 7.59W x 8.66H x 4.80D	NEMA 3R	V4500500ENC
2	Cable w/ Plug	14/4	V4500404CA
3	Connection Diagram	See Page 37	----
4	Fuse, 115v/0.75hp	12A	V4500200F
	Fuse, 115v/1hp	15A	V4500201F
	Fuse, 230v/0.75-1hp	8A	V4500202F
5	Run Capacitor	370V, 35MFD	V4500002C
6	Start Capacitor	250V, 64MFD	V4500003C
7	Ground Lug		V4500400LUG
8	Relay, 115v	TI 4CR-1-758	V4500100R
	Relay, 230v	TI 4CR-1-705	V4500101R
9	Fuse Clamp		V4500401CLP

Control Box, 3/4 & 1HP, 115V P/N: V101811
 Control Box, 3/4 & 1HP, 230V P/N: V101812

2HP 1Phase Control

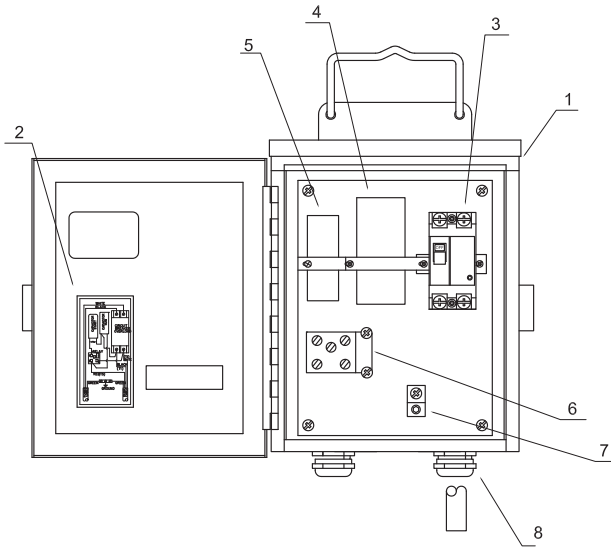


Item No.	Name	Description	Part No.
1	Enclosure 8.08W x 10.12H x 4.47D	NEMA 3R	V4500501ENC
2	Connection Diagram	See Page 37	----
3	Circuit Breaker 115v	240V, 32A	V4500300B
	Circuit Breaker 230v	240V, 15A	V4500301B
4	Start Capacitor 115v	800MFD/125V	V4500004C
	Start Capacitor 230v	200MFD/250V	V4500005C
5	Relay 115v	HY-D2-165/40-11CU	V4500102R
	Relay 230v	MARS 169 #19169	V4500103R
6	Ground Lug		V4500400LUG
7	Connector		V4500402CON

Control Box, 2HP, 115V P/N: V200811
 Control Box, 2HP, 230V P/N: V200812

Control Box Components

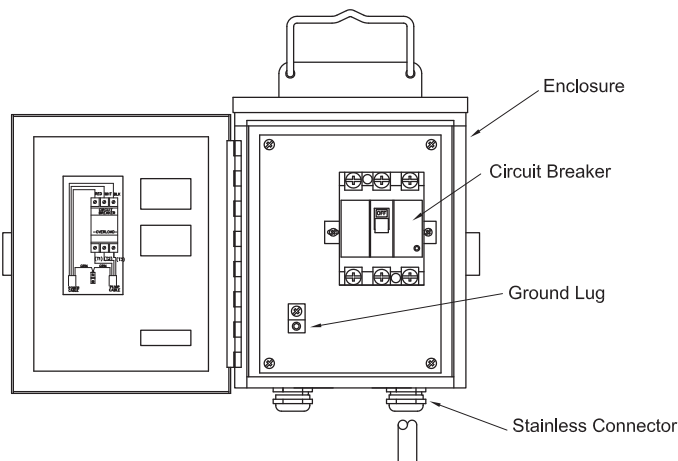
2.75, 3.5, 5 & 6HP 1Phase Control



Item No.	Name	Description	Part No.
1	Enclosure 8.08W x 10.12H x 4.47D	NEMA 3R	V4500501ENC
2	Connection Diagram	See Page 37	----
3	Circuit Breaker 2.75Hp	240V, 15A	V4500301B
	Circuit Breaker 3.5Hp	240V, 20A	V4500302B
	Circuit Breaker 5Hp	240V, 30A	V4500300B
	Circuit Breaker 6Hp	240V, 40A	V4500304B
4	Run Capacitor 2.75Hp	25MFD/370V	V4500006C
	Run Capacitor 3.5, 5 & 6Hp	45MFD/450V	V4500007C
5	Start Capacitor 2.75Hp	200MFD/250V	V4500005C
	Start Capacitor 3.5, 5 & 6Hp	300MFD/350V	V4500008C
6	Relay	MARS 169 p/n19169	V4500103R
7	Ground Lug		V4500400LUG
8	Connector		V4500403CON

Control Box, 2-3/4 HP, 230V P/N: V270812
 Control Box, 3-1/2 HP, 230V P/N: V350812
 Control Box, 5 HP, 230V P/N: V500812
 Control Box, 6 HP, 230V P/N: V600812

0.75 - 50HP 3Phase Control



Control Box OEM Circuit Breakers				
Pump Model	HP, Volts, Ph	Control Box No.	Circuit Breaker Part Number	Description
PF01032	.75Hp 230/3	V075832	V250850-036	480V/5A
PF01034	.75Hp 460/3	V100834	V100850-034	480V/3A
PF01332	1Hp 230/3	V100832	V250850-036	480V, 5A
PF01334	1Hp 460/3	V100834	V100850-034	480V, 3A
PF25132HV	2.5Hp 230/3	V500834	V500850-134	480V, 10A
PF25134HV	2.5Hp 460/3	V250834	V250850-036	480V, 5A
PF50132HV	5Hp 230/3	V810834	V815850-136	480V, 20A
PF50134HV	5Hp 460/3	V500834	V500850-134	480V, 10A
PF501322ST	5Hp 230/3	V810834	V815850-136	480V, 20A
PF501342ST	5Hp 460/3	V500834	V500850-134	480V, 10A
PF81032HV/HH	10Hp 230/3	V810832	V810850-032	480V, 40A
PF81034HV/HH	10Hp 460/3	V810834	V815850-136	480V, 20A
PF81532HV/HH	15Hp 230/3	V815832	V840850-036	480V, 50A
PF81534HV/HH	15Hp 460/3	V815834	V815850-034	480V, 30A
PF82532HV/HH	25Hp 230/3	V825832	V825850-032	480V, 75A
PF82534HV/HH	25Hp 460/3	V825834	V810850-032	480V, 40A
PF85034HV/HH	50Hp 460/3	V850834	V850850-034	480V, 60A

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 (whichever 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.powerflopumps.com, Attention: Customer Service Department, to obtain any needed repair or replacement of part(s) or additional information pertaining to our warranty.

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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.