



SEWAGE PUMP OPERATING & INSTALLATION INSTRUCTIONS

Your pump has been carefully packaged at the factory to prevent damage during shipping. However, occasional damage may occur due to rough handling. **Carefully inspect your pump** for damages that could cause failures. Report any damage to the Pump Installer from whom you purchased the pump. Please read these instructions carefully. **Failure** to comply to instructions and designed operation of this system, may **void** the warranty.

MODEL

SEW50

SEF50



IMPORTANT:

Prior to installation, record Model, Serial Number and Date Code from pump nameplate for future reference.

MODEL: _____

SERIAL #: _____

DATE CODE: _____

INSTALLATION DATE: _____

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SAFETY INSTRUCTIONS:

The pump that you have purchased is produced with the latest in material and workmanship. Always remove the plug from the electrical outlet before installing the pump. Before installation and operation, we recommend the following procedures:

1. Check with your local electrical and plumbing codes to ensure you comply with the regulations. These codes have been designed with your safety in mind. Be sure you comply with them.
2. We recommend that a separate circuit be lead from the home electrical distribution panel properly protected with a fuse or a circuit breaker. We also recommend that a ground fault circuit be used. **Consult a licensed electrician for all wiring.**
3. The ground terminal on the three prong plugs should never be removed. They are supplied and designed for your protection. **Do not use an extension cord.**
4. Do not stand in water when connecting or disconnecting power cord from outlet.
5. This product should be connected to a three prong grounded outlet equipped with a ground fault circuit interrupter.
6. Do not pump flammable liquids with this pump as an explosion or fire could result.
7. Do not run this pump dry. Running your pump without water will damage the mechanical seal, reduce the life of the pump and void the warranty.
8. This product does not require lubrication. A special oil has been put in the motor housing at the factory for lifetime lubrication of the bearings. Use of any other oil can cause and void the warranty.

MATERIAL REQUIRED FOR SEWAGE PUMP APPLICATION

Sewage Pump Installation

- Desired length of ABS/DWV 2" (51 mm) pipe, to link up from pump discharge to waste or existing drain pipe
- Required quantities of 2" (51 mm) ABS/DWV elbow(s) and/or other fitting(s) to run the discharge line
- (1) only 2" (51 mm) ABS/DWV male adaptor to 2" (51 mm) slip, to connect the discharge pipe to the pump
- Desired length of proper size ABS/DWV pipe and required quantities of ABS/DWV elbow(s) and/or other fitting(s) to run the vent line
- (1) only 2" (51 mm) union check valve
- (1) only 18" (46 cm) x 30" (76 cm) minimum size sewage basin

Tools Required

- Screwdrivers
- Hacksaw to cut pipe
- Knife to assist in pipe cutting
- Round file to smooth pipe ends
- Pipe wrench
- Adjustable wrench
- ¼" (6.4 mm) drill bit and drill

Ensure that you have a gas tight cover for your sewage basin and proper size of ABS/DWV vent piping.

Piping for Effluent Applications – ¾" (19 mm) or less solids

ABS or PVC are suitable piping materials. Check local building codes before making a selection. Piping must be 1 ½" (38 mm) minimum to carry volume of pipe discharge.

Piping for Sewage Applications – 2" (51 mm) or less solids (DSBW300)

ABS or PVC are all suitable piping materials. Check local building codes before making a selection. Piping must be 2" (51 mm) minimum to keep an solids present in suspension in the fluid.

Check Valves & Air Locking

Check local codes to determine if a check valve is required in your system. If using a wastewater pump, a check valve is recommended.

Air locking may occur if the sump empties after extended periods of dry weather. When wet weather returns and the sump begins to refill, air may become trapped below the discharge check valve. Drill a 1/8" (3 mm) diameter relief hole in the discharge pipe below the check valve. This hole will help prevent "air locking" where a check valve is used. The frilled hole will vent air trapped in the system. Frequent operation of the pump prevents air locking from occurring.

For best performance of the check valve when handling solids, install in a horizontal position to keep solids from settling in the valve preventing it from opening and closing.

Basin Cover and Vent

A sealed cover and vent are compulsory in sewage applications but not where only sump water is to be pumped. However, a cover will prevent foreign solid matter from falling into the sump basin and possibly damaging the pump. It may also prevent personal injury.

Automatic Thermal Overload Protection

The motor has a built-in automatic overload protector. It will cut off the power to the motor before the temperature rises enough to damage the motor windings. Should the overload stop the pump operation, it will reset automatically. Operation will resume when the motor cools enough to close the overload switch.

Liquid Level Control Operation

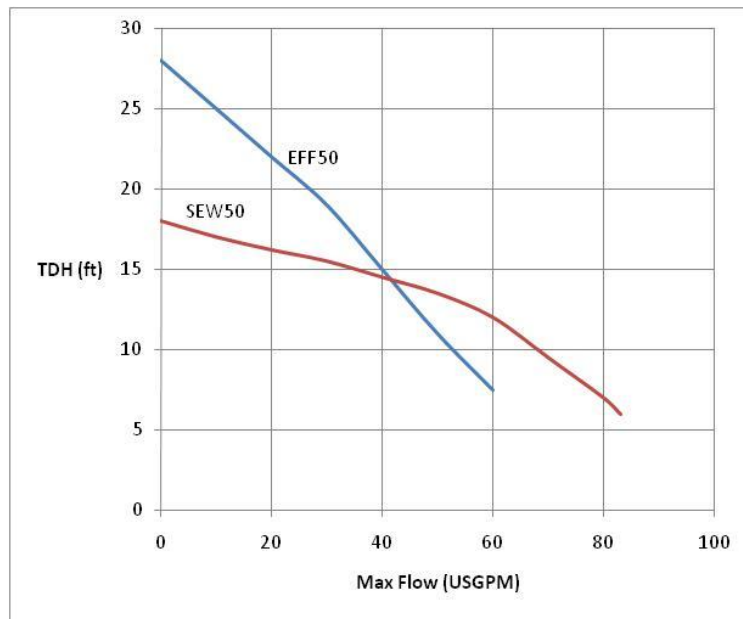
A float switch is used for automatic operation to turn pump on and off. Adjust liquid level control to suit the following conditions:

1. Pump should not operate for extended periods of time while motor housing is in air. Otherwise thermal protection will shut motor off.
2. Pump must not operate for any length of time while impeller is out of water. Position the float so that it cannot “hang up” on the sides of the basin or on the pump itself.

Adjustments are made by decreasing or increasing the float tether to a minimum 4” (102 mm) tether length and a maximum 6” (152 mm) tether length when the float is secured to the pump.

Securing the float to the discharge pipe should be done with a cable tie or waterproof tape.

PERFORMANCE



Sewage and Effluent Pump Specifications

Item #	Model Number	Description	TDH (ft/m)	* Max Flow (usgpm/lps)	Solids Handling	HP	Voltage	Frequency Hz	Rated Amp	Maximum Amp	Output Power (W)	Motor Speed	Weight (lb/kg)
45020001	EFF50	Effluent Pump	28/8.5	62/3.9	3/4"	1/2 HP	115	60	5.0	15.7	370	3500	19.8 / 9.0
45020002	SEW50	Sewage Pump	17/5.2	83/5.2	2"	1/2 HP	115	60	6.0	15.7	370	3500	22.0 / 10

* Note: Maximum flow based on a minimum 6' Head

Sewage Ejector Packages

45020003		1/2 HP Sewage Package c/w 18.5" x 30" (35 US gal) basin	17/5.2	83/5.2	2"	1/2 HP	115	60	6.0	15.7	370	3500	42.8 / 19.4
45020004		1/2 HP Sewage Package c/w 24" x 24" (42 US gal) basin	17/5.2	83/5.2	2"	1/2 HP	115	60	6.0	15.7	370	3500	46.8 / 21.2
		* Note: Item # 45020004 above with 24" x 24" tank, not available until April / 2010											
45020005		1/2 HP Sewage Package c/w 22" x 33" (53 US gal) basin	17/5.2	83/5.2	2"	1/2 HP	115	60	6.0	15.7	370	3500	48.8 / 22.1

INSTALLATION STEPS

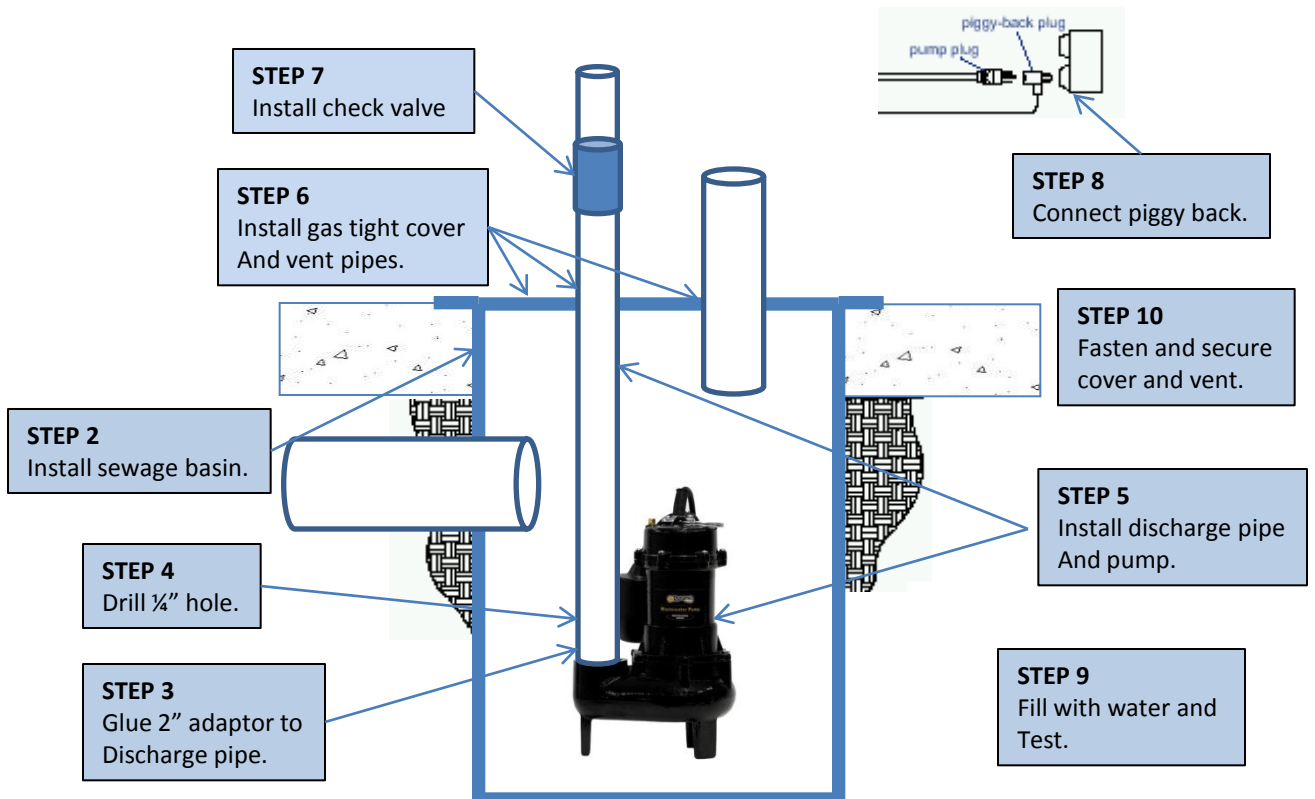
- STEP 1:** We recommend that you install your pump and basin in a clean location where there is adequate room for servicing at a later date. Protection from freezing temperatures and good ventilation should be considered as well, to provide the pump an environment for long life. Install pump on a hard, level surface (cement, asphalt, etc.) Never place pump directly on earth, clay or gravel surface. Install pump in a basin of at least 18" (46 cm) diameter and 30" (76 cm) depth. **Do not use to pump gas, or toxic fuels. This submersible sewage/effluent pump is designed to pump raw sewage or effluent with maximum solids of 2" (51 mm) or ¾" (19 mm) respectively. Do not pump in mud, sand, gravel, cement, oil, brine or chemicals. Use in these applications will void warranty.** Friction losses in the discharge pipe must be taken into consideration when installing your pump. The run of the pipe from the check valve to the existing waste or drain line must never be sloping downward except when connecting to same. Friction losses in the discharge pipe must also be considered when many elbows and fittings are installed in the discharge line. Each elbow or fitting must be considered as 1 foot (30 cm) of head. **Never run the pump dry.** Damage to the mechanical seal may occur. Fill pump sewage basin with water before turning on the power.
- STEP 2:** For new installation, install your sewage basin in the excavation you have provided in the basement floor of your home. Connect the necessary piping from your shower trap, toilet, etc., to the inlet of your sewage basin, with the proper pipe and fittings (See diagram)
- STEP 3:** Cut a length of 40" (102 cm) or 42" (107 cm) of 2" (51 mm) ABS/DWV pipe. Cement the 2" (51 mm) ABS/DWV male adapter to 2" (51 mm) slip to one end of this pipe.
- STEP 4:** With your drill, make a ¼" (6.4 mm) hole in the adaptor previously glued. This hole will prevent any air locking which might occur.
- STEP 5:** Screw the pipe with the male adaptor into the 2" (51 mm) discharge opening in the pump. Lower pump with piping attached into the sewage basin. Make sure that the pump is as close as possible to the centre of the basin. **Adjusting the pump in centre of basin will keep mechanical float switch from rubbing on side of the basin.**
- STEP 6:** When you are pumping raw sewage, you must have a gas tight cover on the basin and a vent pipe from basin, connecting to home's vent system (see diagram). Feed the 2" (51 mm) riser pipe from pump's discharge, through the 2" (51 mm) opening in the cover. Secure a vent pipe to the cover and bring the switch and pump motor power cables through the opening in the cover provided.

INSTALLATION STEPS

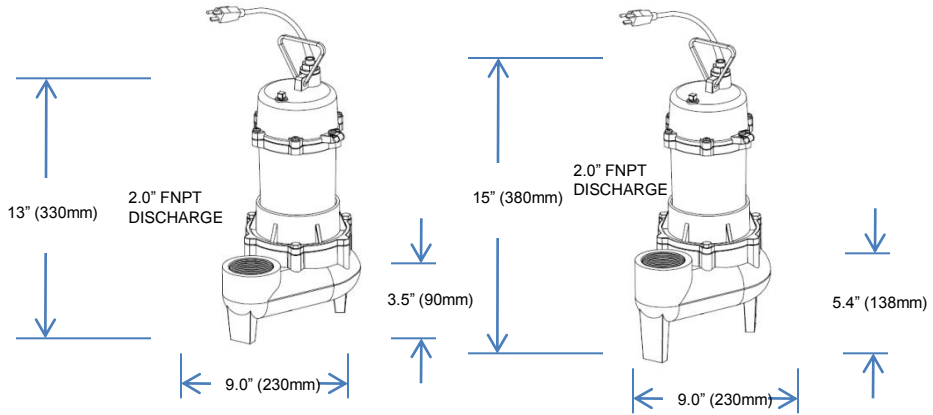
CONTINUED

- STEP 7:** Install 2" (51 mm) union type check valve to the 2" (51 mm) discharge riser pipe coming out of the cover, to a length of 2" (51 mm) ABS/DWV pipe, and run the discharge line as short as possible to the home's waste sewer line. Secure the check valve with stainless steel clamps. Be sure arrow on the valve is pointing away from pump.
- STEP 8:** Connect the 3 prong plug of the switch in a receptacle. Insert the motor 3 prong plug into female receptacle on exposed piggy-back of switch plug. The mechanical switch provided for automatic operation is preset to pump. No adjustment should be necessary.
- STEP 9:** Fill the sewage basin with water to test the operation of the submersible sewage pump and switch operation. Pump should start pumping when the water level reaches 12" (305 mm) to 15" (381 mm) above the bottom of the basin and above the pump. Allow the pump to go several "on-off" cycles to assure satisfactory operation.
- STEP 10:** Secure the gas tight cover and the plug for electrical cords with the gaskets and screws provided with the cover. Make vent connection to home's vent system.

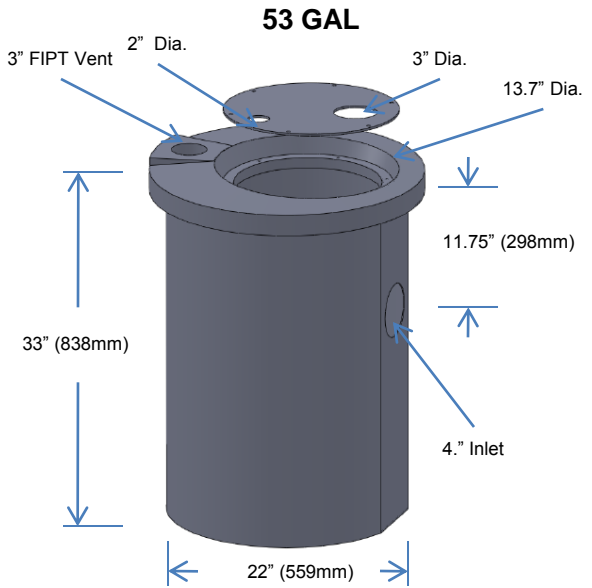
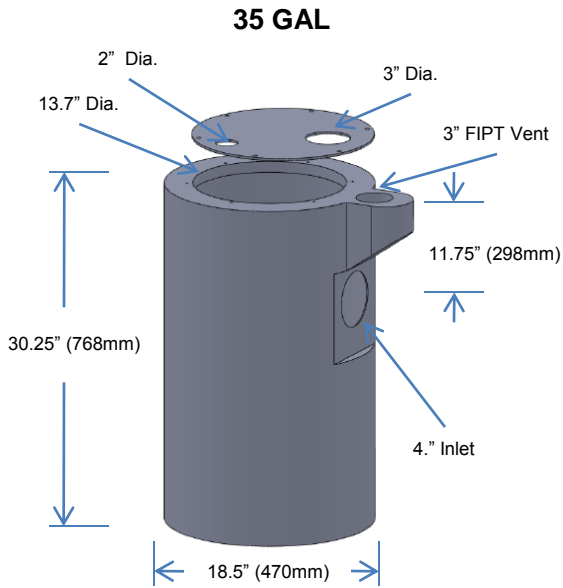
INSTALLATION DIAGRAM



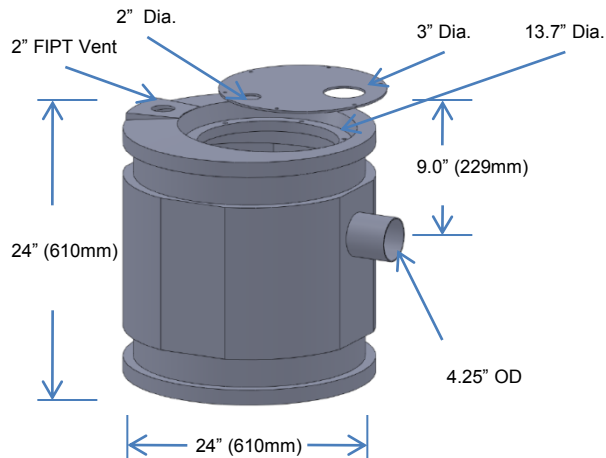
PUMP DIMENSIONS



TANK DIMENSIONS



44 GAL

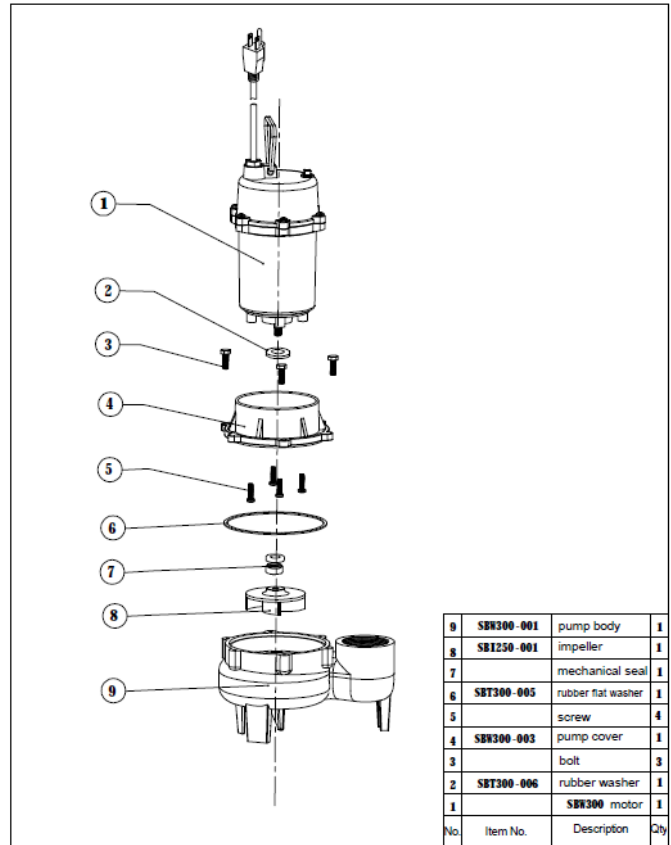
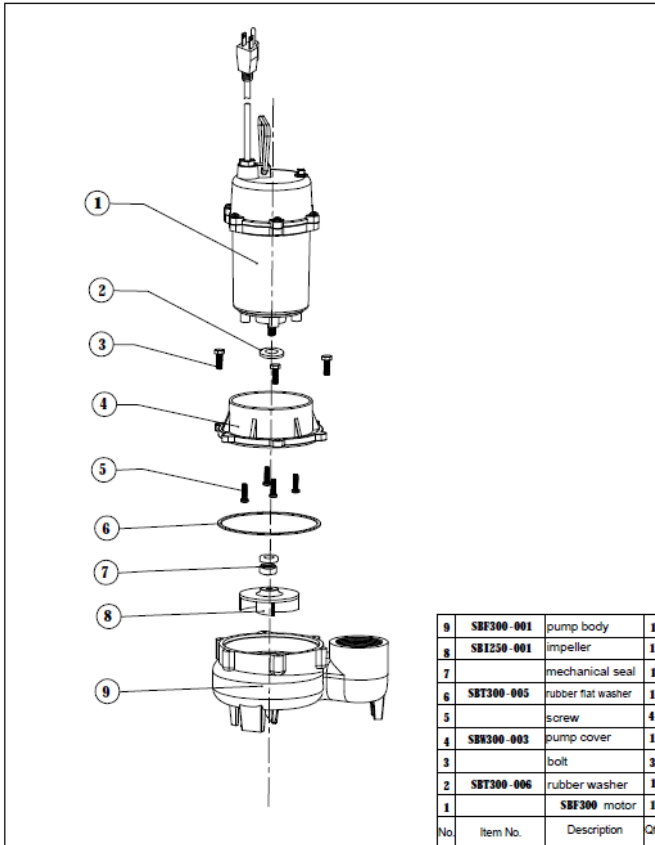


MAINTENANCE

Unplug the switch and pump motor power cord. Remove the pump from pit or basin. Remove trash accumulation and dirt from the pump and float switch. Be sure the float switch operates freely after cleaning. If tar or paint has been received in the pit or basin, use kerosene to remove residue from float switch or pump. **Do not use strong paint solvents.**

Remove the screws that hold the strainer or the base to the bottom of the pump body. Pry the base off the pump body carefully. Clean the impeller and volute passage way from any debris which may have become in contact with these parts. Again, if tar or paint has entered pump, clean with kerosene. **Do not use strong paint solvents.** Be sure impeller turns freely after cleaning. Check and clean away any debris which may be clogging the suction inlet, pump discharge, check valve and discharge line.

EXPLODED VIEW



TROUBLE SHOOTING GUIDE CHECKLIST

NEVER MAKE ADJUSTMENTS TO ANY ELECTRICAL APPLIANCE OR PRODUCT WITH THE POWER CONNECTED. DON'T JUST UNSCREW THE FUSE OR TRIP THE BREAKER, REMOVE THE POWER FROM THE RECEPTACLE.

Pump does not run or hums

- Pump plug and liquid level control plug not securely fastened together. Push plugs together tightly.
- Circuit breaker tripped or fuse blown. Replace fuse (15 amp time delay fuse) or reset breaker.
- Liquid level control inoperative. Test level control by plugging pump cord directly into wall outlet. If pump operates, float tether requires adjustments or should be replaced.
- Liquid level control trapped below water level. Free and reposition so that its motion is unobstructed.
- Thermal overload may have tripped. Disconnect from power source for 30 minutes to allow motor to cool. Check for cause of overheating and overloading.

Pump will not stop running

- Liquid level control caught on basin sides or on pump. Free float and re-install it so that its motion is unobstructed.

Motor runs but does not pump sufficient (or any) water

- Pump is air locked. Run pump through several quick on/off cycles by plugging and unplugging pump cord (detach from piggyback plug first).
- Impeller, volute and/or suction opening is plugged. Remove volute and clean.
- Check valve or shut-off valve plugged. Remove check valve and clean. Open shut-off valve fully.
- Check valve may be installed backwards or shut-off valve is closed. Adjust components as required.
- Discharge piping is too small. Replace with piping of size equal to or greater than pump discharge.
- Pump is undersized for application.

Pump starts and stops frequently

- Check valve is stuck open. Water in discharge lines is refilling basin after pump stops and is short cycling the pump. Remove check valve and clean thoroughly.

Cleaning the Pump

The following steps are for service and cleaning of the pump:

1. Always disconnect until from power supply before any servicing is performed.
2. Disconnect discharge piping and remove pump from sump/sewage basin.
3. Submerge pump in a disinfectant solution (Clorox or chlorine) for at least one hour before disassembling pump.
4. Detach volute from pump by removing the three bolts – **DO NOT** remove countersunk screws holding seal plate to stator housing or warranty will be void.
5. Gently pry volute from seal plate using a screwdriver.
6. Clean impeller and inner volute using water. Do not use strong solvents (paint thinner, gasoline) which may damage the plastic.
7. Re-attach volute after cleaning.

NOTE: Do not remove the impeller from its shaft.



2 Year Limited Warranty

Dynamic Pumps warrants this pump to be free from defects in material and workmanship for a period of 2 years from date of manufacture.

This pump is guaranteed to do the work for which it is intended when properly installed and operated. The only exception shall be when proof of purchase or installation is provided (end user bill of sale required) and then the warranty period shall be from the date thereof.

HOW TO CLAIM WARRANTY

The dealer from whom you purchased your pump has a thorough knowledge of it's operation and maintenance. If trouble develops, please consult the dealer.

The manufacturers obligation under this Warranty shall be limited to the repair or replacement of any parts found by the manufacturer to be defective, provided the part or the assembly is returned freight prepaid to the manufacturer or its authorized service centre.

If a unit or part should prove defective within 24 months, return it to your dealer, transportation charges prepaid. The repair will be made or a replacement unit or part will be supplied free of charge. The serial number of the unit , or unit from which the defective part is taken, must be supplied.

This warranty does not oblige the manufacturer to bear the cost of field labor or transportation in connection with the replacement or repair of defective parts or units, nor shall it apply to any product upon which repairs or alterations have been made, unless authorized by the manufacturer.

The manufacturer shall in no event be liable for consequential damages or contingent liabilities arising out of the failure of any product, its power unit or its accessories to operate properly. No express, implied or statutory warranty other than herein set forth is made authorized to be made by the manufacturer.