

Installation & Operating Manual

25IEFF-M
9/06 Edition

WEBTROL
Quality Products



Effluent Series Pumps **Thermoplastic & Stainless Steel Constructed**

**Congratulations On Your Choice
In Purchasing This Webtrol Pump**

Its Quality is unsurpassed in material and workmanship and has been factory tested.
If properly installed, it will give many years of trouble free service.

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Pre-Installation

Examine the components carefully to ensure that no damage has occurred to the liquid end, motor, or cable during shipment. Report damage immediately to the shipping carrier or to your dealer / distributor. The Webtrol Effluent Submersible Pump should remain in the shipping carton until it is ready to be installed. Do not drop or mishandle the pump prior to installation.

Warning: The motor is equipped with an electrical cable. It should NEVER be used to lift or carry the pump. Damage to the electrical cable can cause shock, burns or death!

Only qualified personnel should install the pump and associated control equipment.

For your protection, make certain the pump ground wire is properly connected to the ground wire with the incoming power supply.

All wiring must meet National Electrical Code or Canadian Electrical Code and local code requirements.

To properly size fuses / circuit breakers / wire size See *Table 1*.

Table 1 - Webtrol's Two Wire, Single Phase, Submersible Motors

HP	Motor Model Prefix	Volts	S.F. Amps	Circuit Breakers Or Fuse Amps (Maximum Per NEC)			Cable Selection Chart Copper Size AWG Maximum Distance From Service Entrance To motor, Feet						
				Standard Fuse	Dual Element Time Delay Fuse	Circuit Breaker	14	12	10	8	6	4	2
1/2	244504	115	12	35	20	30	100	160	250	390	620	960	1460
1/2	244505	230	6	20	10	15	400	650	1020	1610	2510	3880	5880
3/4	244507	230	8	25	15	20	300	480	760	1200	1870	2890	4370
1	244508	230	9.8	30	20	25	250	400	630	990	1540	2380	3610
1 1/2	244309	230	13.1	35	20	30	190	310	480	770	1200	1870	2850

Electrical supply MUST match the pumps nameplate specifications. Incorrect voltage can cause fire, damage to the motor and voids the warranty.

“Do Not” install the pump in a hazardous location.

Pump performance is based upon pumping clear (68 deg. F) water that is free of air or gases.

Typical installations are shown in *Figures 2-4, Pages 4-6*.

Pump should be sized correctly for flow, head, and include friction losses.

If the discharge pipe is subject to freezing, protect the system from freeze up. The discharge pipe can be insulated. If a check valve is not installed, the "on-off" cycle must be adjusted for any back-flow from the discharge pipe.

Note! The thermoplastic and stainless steel pumps are shipped without a check valve.

The pump can operate in water up to 86F. In the event, the water temperature exceeds 86F, the motor horsepower must be de-rated.

Installation

The pump can be installed vertically / horizontally by placing it on a support located on the bottom of the tank, or supported by a device to hang the pump from the top of the tank.

Pipe joint compound can cause thermoplastic to crack. Use only teflon tape when sealing joints in the plastic pipe of connecting pipe to the thermoplastic discharge used on the Thermoplastic Effluent Submersible Pumps.

When a check valve is used a 1/16" diameter hole must be drilled in the nipple above the discharge and below the check valve. See Figure 1 below for vent hole location.

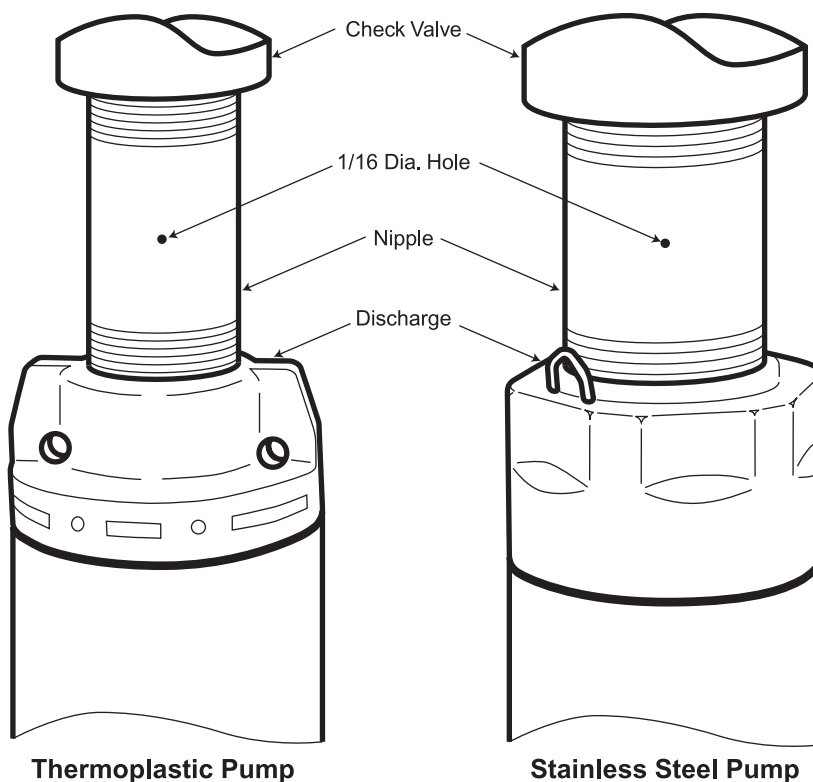


Figure 1 - Vent Hole Location

For typical tank installations, See Figures 2-4

Typical Tank Installations

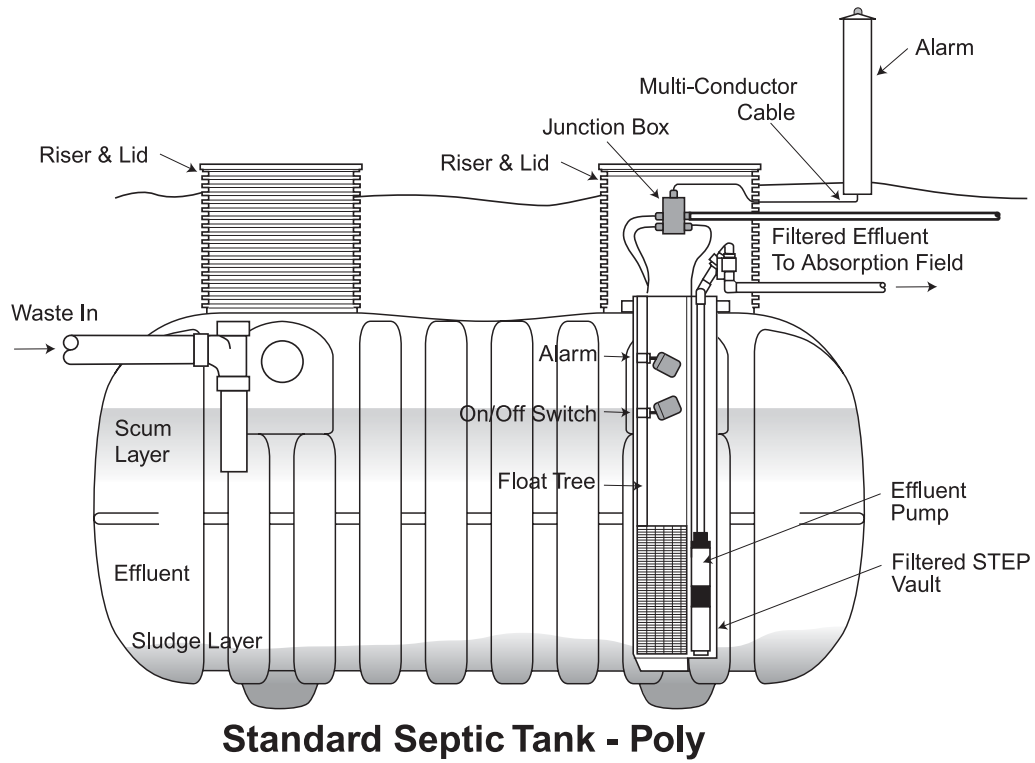


Figure 2 - Typical Installation

Typical Tank Installations

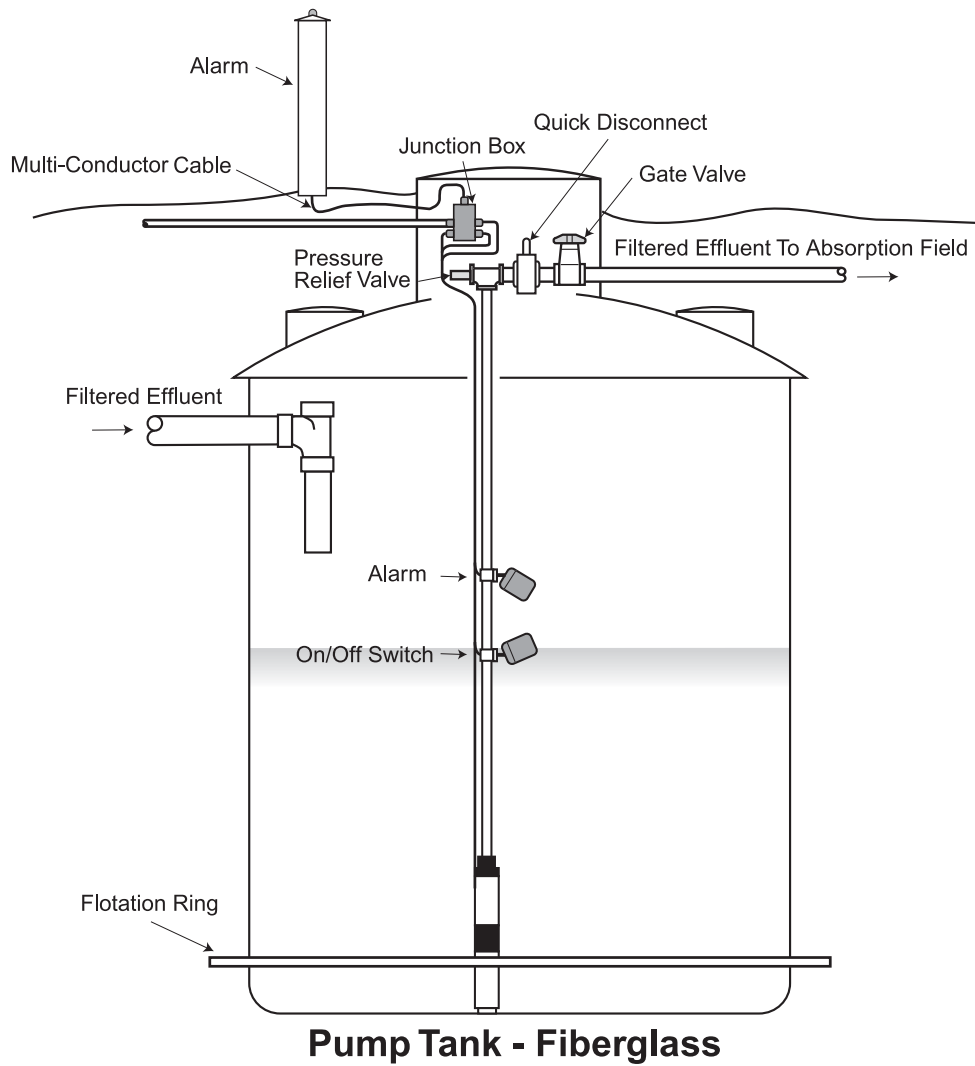


Figure 3 - Typical Installation

Typical Tank Installations - Continued

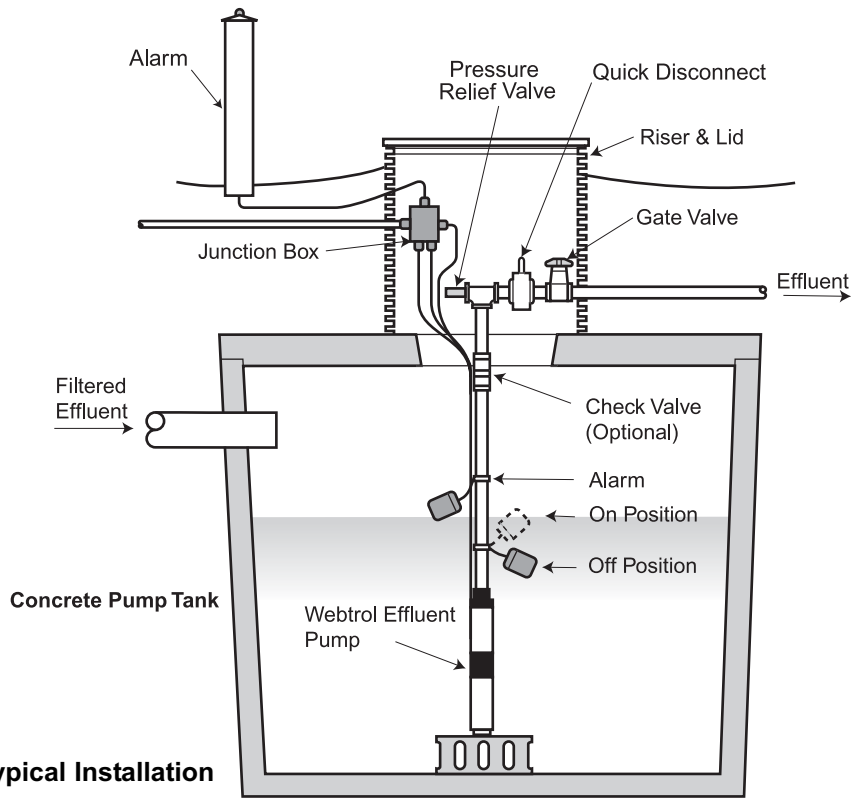
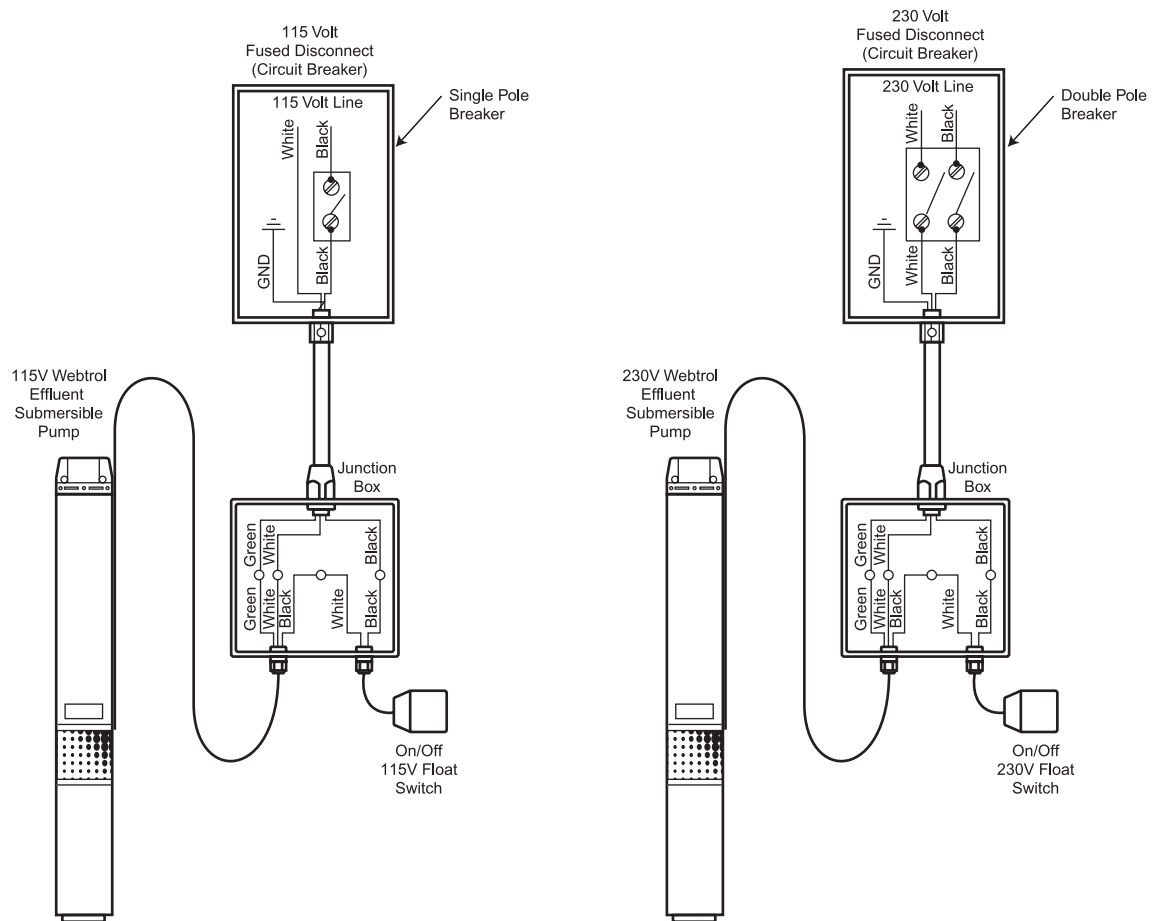


Figure 4 - Typical Installation

Single Phase Motors - Wiring Diagram



System Trouble Shooting

Motor Does Not Start		
Cause of Trouble	Checking Procedure	Correction Action
A. No power or incorrect voltage.	Using voltmeter check the line terminals. Voltage must be $\pm 10\%$ of rated voltage.	Contact power company if voltage is incorrect.
B. Fuses blown or circuit breakers tripped.	Check fuses for recommended size and check for loose, dirty, or corroded connections in fuse receptacle. Check for tripped circuit breaker.	Replace with proper fuse or reset circuit breaker.
C. Float assembly held down.	Inspect float assembly.	Replace / repair float assembly.
D. Defective cable or motor.	Contact factory for copy of Franklin Electric Application, Installation & Maintenance Manual.	Repair or replace.
E. Defective wiring.	Check for loose or corroded connections. Check motor lead terminals with voltmeter for power.	Correct faulty wiring or connections.
F. Bound pump.	Locked rotor conditions can result from misalignment between pump and motor or bound pump. Amp readings 3 to 6 times higher than normal will be indicated.	If pump will not start with several trials, it must be pulled and the cause corrected.

Motor Starts Too Often		
Cause of Trouble	Checking Procedure	Correction Action
A. Defective level switch(s).	Check switch and examine for defects.	Replace switch or adjust level of switch.
B. Check valve, stuck open.	Damaged or defective check valve will not hold pressure or prevent backflow.	Replace if defective.
C. Pump Tank too small.	Recalculate tank size.	Increase tank size.
D. Leak in effluent system.	Check system for leaks.	Replace damaged pipes or repair leaks.

Motor Runs Continuously		
Cause of Trouble	Checking Procedure	Correction Action
A. Defective switch.	Switch does not open.	Replace.
B. Leak in effluent system.	Check system for leaks in tank or lines.	Replace damaged pipes or repair leaks.
C. Debris under float assembly, bound by pit sides.	Inspect float assembly.	Remove debris, replace / repair float assembly.
D. Loose or broken motor shaft.	No or little water will be delivered if coupling between motor and pump shaft is loose or if a jammed pump has caused the motor shaft to shear off.	Check for damaged shafts if coupling is loose and replace worn or defective units.
E. Pump screen blocked.	Restricted flow may indicate a clogged intake screen on pump.	Clean primary and secondary screen.
F. Check valve stuck closed.	No water will be delivered if check valve is in closed position.	Replace if defective.

Motor Runs But Overload Trips Or Blows Fuse		
Cause of Trouble	Checking Procedure	Correction Action
A. Incorrect voltage.	Using voltmeter, check the line terminals. Voltage must be within $\pm 10\%$ of rated voltage.	Contact power company if voltage is incorrect.
B. Defective motor or cable.	Contact factory for copy of Franklin Electric Application, Installation & Maintenance Manual.	Repair or replace.
C. Worn pump or motor.		

Little Or No Liquid Delivered By Pump

Cause of Trouble	Checking Procedure	Correction Action
A. Faulty or incorrectly installed check valve.	Inspect check valve. Is it installed backwards? If check valve is used, vent hole must be clear.	Replace if defective / clean vent hole.
B. Worn Pump after a period of use.	With the pump running, close the discharge valve & record pressure. If low, pump may be worn due to abrasive materials / adverse chemicals.	Pull pump & replace rotating assembly.
C. Pump bound by abrasive material.	Amp readings 3 to 6 times higher than normal will be indicated.	Pull pump & clean.
D. Pump screens blocked.	Inspect primary/secondary screens.	Clean screens.
D. Low Voltage.	Measure incoming voltage..	If low, contact local electric company.
E. Water contains air or gases.	Water level should not be below suction inlet of pump.	Adjust cut-off level of switch. Adjust cut-off level of float for on-off switch.

Owners Information

Name Of Dealer: _____ Phone: _____

Address: _____

Installed By: _____ Date: _____

Pump Model No: _____ HP: _____ Date Code: _____

Power Supply: _____ Volts: _____ Service Factor Amps: _____

Cable Size: _____ AWG: _____ Ft.: _____

Riser Pipe Size: _____ Material: _____ Length (Inches): _____

Septic Tank Size Gallons: _____

Float Height (Inches): Pump _____ On, _____ Off, Timer Override (Inches): _____ On, _____ Off

Low Level Cutoff (Inches): _____ Redundant Off (Inches): _____

Timer Settings (Minutes/Hours): On _____ Off _____ High Level Alarm (Inches): _____

Note! Float location to be measured from the bottom of the tank.

Other Information: _____

Thank You For Purchasing A Effluent Series Pump

We at Webtrol are constantly working on new products to make your job easier, while making your systems more efficient, reliable and affordable.

Your opinion means a lot to us, so please let us know what you think about our Effluent Series Pump.

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