INSTALLATION

Before You Install Your Pump

NOTICE

1. The pump's water suction inlet must not be move than 20' above the water level.
2. Long runs and many fittings increase friction and reduce water flow to the pump. Locate pump as close to water source as possible; use as few elbows and fittings as possible. Be sure suction line is straight and angles up toward pump to avoid air lock.
3. Be sure well and pipe are clear of sand, dirt and scale. Foreign matter will plug pump and void warranty. Use new pipe for best results.
4. Protect pump and all piping from freezing. Freezing will split pipe, damage pump and void warranty. Check locally for frost protection require ments. Pipe cannot be installed above frost line and pump must be insulated.
5. Foot or check valves must be installed in suction pipe to optimize pump suction.
6. Be sure all pipes and valves are clean and in good shape.
7. No air pockets in suction pipe.
8. No leaks in suction pipe. Use Teflon tape or other approved sealants to seal pipe joints.
9. Unions installed near pump and well will aid in servicing. Leave room to use wrenches.

⚠WARNING Risk of explosion.

Do not ground to a gas supply line.
Pump body may explode if used as a booster pump or other than a lawn sprinkling application.

⚠ CAUTION Risk of burns.

Motor normally operates at high temperature and will be too hot to touch. It is protected from heat damage during operation by an automatic internal cutoff switch.

Before handling pump or motor, stop motor and allow it to cool for 20 minutes.

Well Pipe Installation

NOTICE

Use installation method below which matches your water source.

Cased Well/Dug Well Installation

1. Inspect foot or in line check valve to be sure it works freely. Inspect strainer to be sure it is clean and secure.
2. If using foot valve, connect foot valve and strainer to first length of suction pipe and lower pipe into well. Add sections of pipe as needed, using Teflon tape on male threads. Note: use 1-1/2" pipe for suction pipe. Be sure all suction pipe is leak proof or pump will lose prime and fail to pump. Install foot valve 10 to 20 ft. (3 to 6 m) below lowest level to which water will drop while pump is operating (pumping water level). Your well driller can furnish this information.
3. To prevent sand and sediment from entering pumping system, foot valve/strainer should be at least 5 ft. (1.5 m) above bottom of well.
4. When proper depth is reached, install sanitary well seal over pipe and in well casing. Tighten bolts to seal casing.
5. When using foot valve, a priming tee and plug are recommended. (Fig. 1).

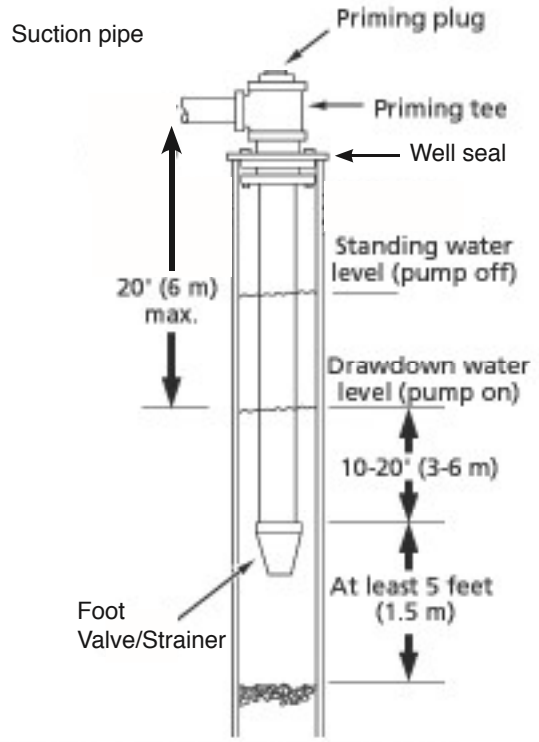


Figure 1 - Cased/Dug Well Installation

INSTALLATION

Driven Point Installation

1. Connect suction pipe to drive point (Fig. 2). Keep horizontal pipe run as short as possible. Use Teflon tape on male pipe threads. Multiple well points may be necessary to provide sufficient water to pump.
2. Install check valve in horizontal pipe. Flow arrow on check valve must point toward pump.

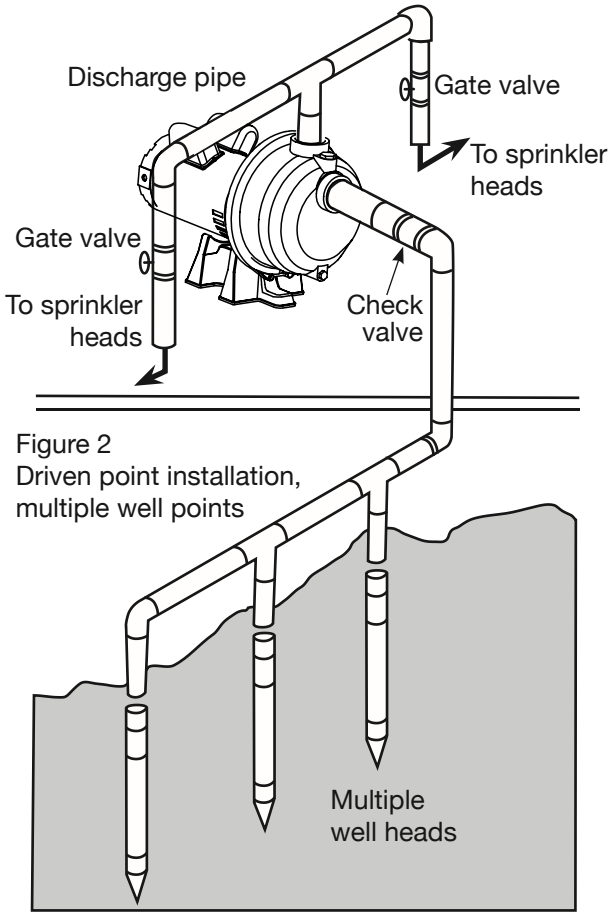


Figure 2
Driven point installation, multiple well points

Pipe from Well to Pump

1. Pump performance will be decreased if the pipe diameter is less than the inlet size of the pump. In proper installation, the pipe size equals the inlet size.
2. To aid priming on well point installations, install line check valve. Be sure check valve flow arrow points toward pump.

Pipe from Pump to Sprinkler Heads

Discharge pipe size should be increased to reduce pressure losses caused by friction on long pipe runs.

- Up to 100' (30.5 m) run: Same size as pump dis charge port.
- 100' – 300' (30.5 – 91.4 m) run: Increase one pipe size.
- 300' – 600' (91.4 – 182.9 m) run: Increase two pipe sizes.

Lawn Sprinkling Application

This pump is designed for lawn sprinkling. When properly installed it will deliver adequate water and pressure from any well source.

Pump/Piping Installation

If turning pump on and off by pressure, a pressure switch and tank are required. For proper follow tank and switch instructions or contact a qualified plumber/electrican.
Use rigid pipe. Do not use hose or plastic tubing. See "Well Pipe Installation" for more information.

NOTICE
Use only PTFE pipe thread sealant tape to joint compounds for making all threaded connections to the pump itself.

Do not use pipe joint compounds on plastic pumps: they can react with the plastic in pump components.

Make sure that all pipe joints in the suction pipe are air tight as well as water tight. If the suction pipe can suck air, the pump will not be able to pull water from the well.

1. Bolt pump to solid, level foundation.
2. Support all piping connected to pump.
3. Wrap 1-1/2 to 2 layers of Teflon tape clockwise (as you face end of pipe) on all male threads being attached to pump.
4. Tighten joints hand tight plus 1-1/2 turns. Do not overtighten.
5. Replace prime plug with pressure gauge. This will aid in sizing zones, troubleshooting, and following pump performance chart.

NOTICE
For long horizontal pipe runs, install a priming tee between check valve and well head (Fig. 1).

ELECTRICAL

Disconnect power before working on pump, motor, pressure switch or wiring

CAUTION **Motor may be hot. Allow to cool 20 minutes.**

CAUTION **Water pressure may have built up in the pump, pipes and/or tank. Drain water to relieve pressure.**

Motor Switch Settings

Motors are designed to run on either 115 volt or 230 volt current. Be sure the motor's current is set to match the current being supplied to your motor from the electrical source.

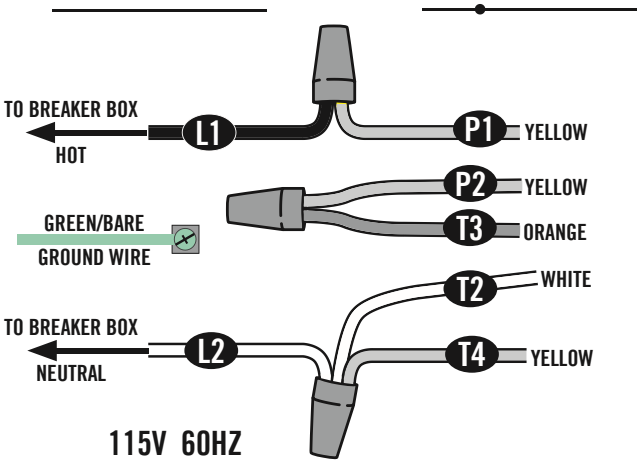
To ensure your motor is set at the correct current setting remove the rear cover from the motor. Inspect the wiring connections to ensure they are set correctly.

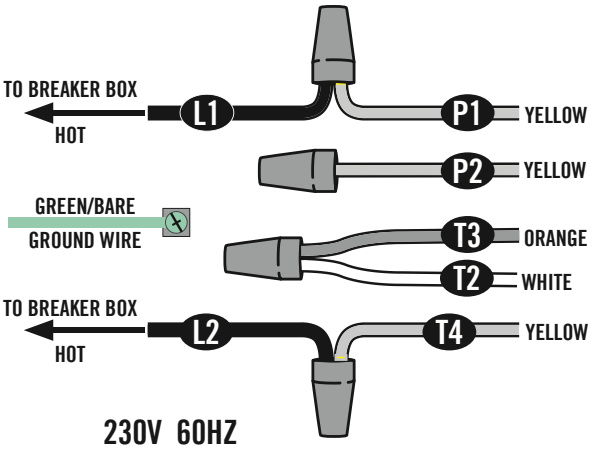
Wiring Connections

WARNING **Risk of electric shock.** Electricity can shock, burn or kill.

1. To avoid dangerous or fatal electrical shock, turn OFF power to motor before working on electrical connections.
2. Ground motor before connecting to electrical power supply. Failure to ground motor can cause severe or fatal electrical shock hazard.
3. Supply voltage must be within +/- 10% of nameplate voltage. Incorrect voltage can cause fire or damage motor and voids warranty. If in doubt consult a licensed electrician.
4. Use wire size specified in Wiring Chart (below). If possible, connect pump to a separate branch circuit with no other appliances on it.
5. Do not ground to a gas supply line.
6. Wire motor according to diagram on motor nameplate. If nameplate diagram differs from diagrams above, follow nameplate diagram.
7. If this procedure or the wiring diagrams are confusing, consult a licensed electrician.

Use for EFLS10, EFLS15 and EFLS20





Wiring Chart Recommended Wire and Fuse Sizes for 115 and 230 volts

MOTOR HP	VOLTS	MAX. LOAD AMP	BRANCH FUSE RATING AMP	AWG MIN. WIRE SIZE (mm^2)	DISTANCE IN FEET FROM MOTOR TO SUPPLY				
					0-100	101-200	201-300	301-400	401-500
					AWG WIRE SIZE (mm^2)				
1	115/230	18.5/9.25	30/15	12/14 (3/2)	12/14 (8.4/2)	8/14 (2/2)	6/14 (14/2)	6/12 (14/3)	4/10 (21/5.5)
1-1/2	115/230	22/11	30/15	10/14 (5.5/2)	12/14 (8.4/2)	8/14 (8.4/2)	6/12 (14/3)	4/10 (21/5.5)	4/10 (21/5.5)
2	115/230	27.0/13.5	30/20	10/14 (5.5/2)	6/14 (14/2)	8/14 (8.4/2)	6/12 (14/3)	4/10 (21/5.5)	4/10 (21/5.5)