

Description:

Jet pumps are single stage domestic water pumps designed for pumping potable water in applications where the water is up to 30 meters or 100 feet (deep well pump). A pressure switch is a standard feature. A built-in control valve is available on deep well pumps. Deep well pumps can be mounted to either a pre-charged, conventional type or free standing pressure tank.

Unpacking:

After unpacking the jet pump, carefully inspect and tighten any parts, nuts, bolts or screws that may have become loose in transit.

Safety Guidelines:

This manual contains information that is very important to know and understand. This information is provided for SAFETY and to PREVENT EQUIPMENT PROBLEMS. To help recognize this information, observe the following:

DANGER: Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING: Warning indicates a potentially hazardous situation which, if not avoided could result in death or serious injury.

CAUTION: Caution indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE: Notice indicates important information, that if not followed, may cause damage to equipment.

General Safety Information:

1. Read the instruction manual included with the product carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
2. Know the pump application, limitations and potential hazards.

WARNING:

- Always install a pressure relief valve to match the system pressure rating and the maximum flow rate.
- Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in explosive atmospheres. Pump should only be used with liquids compatible with

pump component materials. Failure to follow this warning can result in personal injury and / or property damage.

- **Disconnect power pressure from the system before attempting to install, service, relocate or perform any maintenance. Lock the power disconnect in the open position. Tag the power disconnect to prevent unexpected application of power.**
 - **Install a screen pipe to prevent entrapment of swimmers.**
3. Drain all liquid from the system before servicing.
 4. Secure the discharge line before starting the pump. An unsecured discharge line will whip and possible cause personal injury and /or property damage.
 5. Check hoses for weak or worn condition before each use. Make certain all connections are secure.
 6. Periodically inspect pump and system components. Perform routine maintenance as required (see Maintenance).
 7. Personal Safety:
 - a. Wear safety glasses at all times when working with pumps.
 - b. Keep work area clean, uncluttered and properly lighted. Replace all unused tools and equipment.
 - c. Keep visitors at a safe distance from work area.
 - d. Make the workshop child proof: Use padlocks, master switches and remove starter keys.
 8. Do not pump chemicals or corrosive liquids. Pumping these liquids shortens the life of the pumps seals and moving parts and will void the warranty.
 9. When installing pump, cover the well to prevent foreign matter from falling into well and contaminating the water and damaging internal mechanical pumping components.
 10. Always test the water from the well for purity before use. Check with local health department for test procedure.
 11. Complete pump and piping system **MUST** be protected against below freezing temperature. Freezing temperatures could cause severe damage and void the warranty.
 12. Do not run the pump dry or damage will occur and will void warranty.

WARNING: This pump is designed for indoor installation only. Failure to install indoors will significantly increase the risk of injury or death from electrical shock. All wiring should be performed by a licensed or certified electrician.

13. For maximum safety, the unit should be connected to a grounded circuit equipped with a ground fault interrupter device.
14. Before installing the pump, have the electrical outlet checked by a licensed or certified electrician to make sure the outlet is properly grounded.
15. Make sure the line voltage and frequency of electrical current supply agrees with the motor wiring.

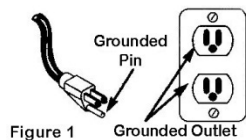
16. Do not attempt repairs to the electric motor. All repairs to the motor must be completed at a licensed or certified electrical motor repair shop.

WARNING: **Do not touch an operating motor. Modern motors are designed to operate at high temperatures.**

17. Avoid kinking electrical cord and protect electrical cord from sharp objects, hot surfaces, oil and chemicals. Replace or repair damaged or worn cords immediately.
18. Keep fingers and foreign objects away from ventilation and other openings. Do not insert any objects into the motor.

WARNING: **Risk of electric shock! Never connect the green (or green and yellow wire) to a live terminal!**

19. To reduce the risk of electrical shock, the pump should be plugged directly into a properly installed and grounded 3-prong grounding type receptacle, as shown in figure 1. The green (or green and yellow) conductor in the cord is the grounding wire. The motor must be securely and adequately grounded for protection against shock.



20. Where a 2-prong is encountered, replace the plug with a properly grounded 3-prong receptacle in accordance with the National Electrical Code, local codes and ordinances. To ensure a proper ground, the grounding means must be tested by a licensed or certified electrician.
21. Use wire of adequate size to minimize voltage drop at the motor.

DANGER: **Do not handle pump or pump motor with wet hands when standing on a wet or damp surface or when standing in water. Fatal electrical shock could occur.**

WARNING: **Pump motor is equipped with an automatic resetting thermal protector and may restart unexpectedly. Protector tripping is an indication of motor overloading because of operating pump at low heads (low discharge restriction), excessively high or low voltage, inadequate wiring, incorrect motor connections or defective motor or pump.**

Pre-Installation:

WATER SUPPLIES

The water supplies illustrated in Figure 25 are possible sources for water. These water supplies can be divided into two categories:

1. Surface Water

Water from a lake, stream, pond and cistern. This water is usually not fit for human consumption, but may be suitable for washing, irrigation or other household uses.

2. Ground Water

Water found in the water bearing stratum at various levels beneath the earth. Of all the fresh water found on earth only 3 percent is found on the surface and 97 percent is underground.

TANKS – CONVENTIONAL STORAGE

The function of the tank is to store a quantity of water under pressure. When full, the tank contains approximately 2/3 water and 1/3 compressed air. The compressed air forces the water out of the tank when a faucet is opened. An air volume control automatically replaces air lost or absorbed into the water. The usable water, or drawdown capacity of the tank is approximately 1/6 of the tanks total volume when operated on a “20-40” pressure setting (Figure 2).

TANKS – PRECHARGED STORAGE

A precharged storage tank has a flexible bladder or diaphragm that acts as a barrier between the compressed air and water. This barrier prevents the air from being absorbed into the water and allows the water to be acted on by compressed air at initially higher than atmospheric pressures (precharged). More usable water is provided than with a conventional tank. For example, a 20 gallon precharged tank will have the same usable water or drawdown capacity as a 40 gallon conventional tank, but the tank is smaller in size (Figure 2)

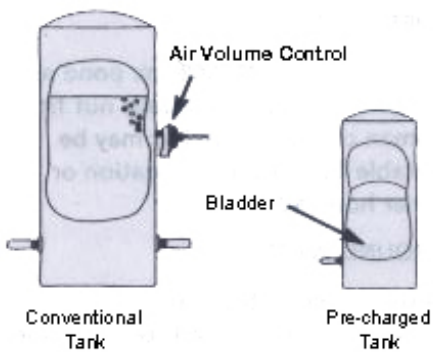


Figure 2. Conventional and Pre-charged Storage Tanks

PRESSURE SWITCH

The pressure switch provides for automatic operation. The pump starts when pressure drops to a cut-in setting. The pump stops when pressure reaches a cut-out setting.

WELLS

A new well should be pumped clear of sand before installing the pump. Sand will damage the pumping parts and seal. The drawdown level of the well should not exceed the maximum rated depth for the pump. The capacity of the pump will be reduced and a loss of prime may occur.

Installation:

LOCATION

Select a location as close to the water supply as possible.

Be sure to comply with any state or local codes regarding the placement of the pump. The equipment must be protected from the elements. A basement or heated pump house is a good location. Make sure the pump has proper ventilation. The temperature surrounding the pump is not to exceed 100° F (40°C) or nuisance tripping of the motor overload may occur.

WARNING: This pump is designed for indoor installation only. Failure to install indoors will significantly increase the risk of injury or death from electrical shock.

PIPING

Piping may be copper, steel, rigid PVC plastic or flexible polyethylene plastic.

CAUTION: Flexible pipe is not recommended on suction pipe (inlet pipe).

The pipe must be clean and free of rust or scale. Use a pipe joint compound on the male threads of the metal pipe. Teflon tape should be used with plastic threads. All connections must be air tight to insure normal operation.

Slope all inlet piping upwards towards the pump to prevent trapping air. Unions or hose couplings can be installed near pump to facilitate removal for servicing or storage. A rubber hose installed between the water system and the house piping will reduce the noise transmitted to the house.

Plastic pipe can be used on all installations except 2" deep well jet. The 2" deep well jet requires 1 ¼ galvanized steel pipe and special machined couplings (1 13/16 " O>D>).

The galvanized steel pipe and the couplings restrict the flow of return water back to the jet unless the couplings are machined.

PIPE SIZES

Long horizontal pipe runs and an abundance of fittings and couplers decrease water pressure due to friction loss. See Chart 2 to determine the proper pipe size.

DEEP WELL INSTALLATION

DRILLED WELL (4" OR LARGER) WITH TWO PIPE JET (FIGURES 25 AND 4)

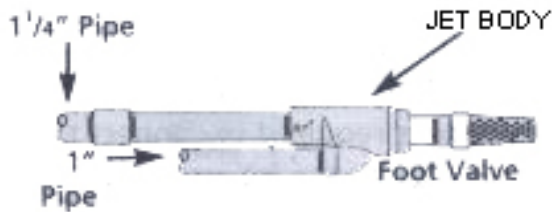


Figure 4 - Two Pipe Jet

1. Assemble a 1 ¼ " foot valve (not included) to the jet body. A 1 ¼ " coupling is required to connect the larger pipe to the jet assembly.
2. Connect the 1" pipe threads into the smaller opening in the jet body.
3. Lower the jet into the well. Add pipe as needed. Be sure to use pipe joint compound on all male threads.
4. Position the jet 10 – 20 feet (3 to 6 meters) below the lowest anticipated water level, but never closer than 5 feet from the bottom of the well if possible.
5. Install a well seal to support the pipe and prevent surface water and other contaminants from entering the well.
6. Install the horizontal pipe from the well to the pump. Piping from the vertical well pipe to the pump should never be smaller than the well pipes.
7. Slope both pipes upward toward the pump to prevent trapping air. If the horizontal distance exceeds 25 feet, see chart 2 for the recommended pipe sizes.

DUG WELL, CISTERN, LAKE AND SPRING WITH TWO PIPE JET (FIGURE 25)

1. Install a 1 ¼ " foot valve (not included) to the jet body. A 1 ¼ " coupling is required to connect the larger pipe to the jet assembly.
2. Connect the 1" pipe threads into the smaller opening in the jet body.
3. Lower the jet into the water below the lowest anticipated water level, but never closer than 18" from the bottom. Sand or debris may be drawn into the system if the jet is too close to the bottom.
4. Provide protection for the jet and pipes against damage from boats or swimmers if a lake is used for the water supply.

WARNING: **Install a screen around the inlet pipe to prevent the entrapment of swimmers.**

5. Slope the horizontal pipes upward toward the pump to prevent trapping air. If horizontal distance exceeds 25 feet (7 meters) see chart 2 for recommended pipe sizes.

DRILLED WELL (2") WITH SINGLE PIPE PACKER (FIGURE 25 AND 5)

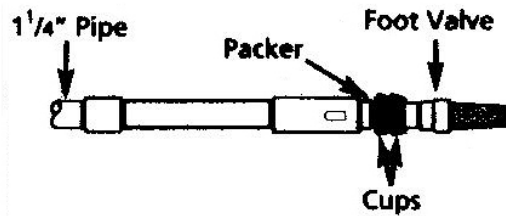


Figure 5 - Single Pipe Jet

Chart 2		Horizontal Distance (feet)		
Pump model	Pump opening	0-25	26-100	100-300
Deep Well	Inlet: Suction	1 ¼ "	1 ½ "	2"
	Inlet: Drive	1"	1 ¼ "	1 ½ "
	Outlet	¾ "	1"	1 ¼ "

Note: Single pipe packer jets rely on the space between single pipe and inside of well casing for return water to operate jet. Two inch installations must use 1 ¼ " galvanized steel pipe with special turned couplings (1 13/16" O.D.) to avoid restricting flow of return water back to jet.

1. Assemble the foot valve and packer to the jet body
2. Lubricate the rubber cups with petroleum jelly.
3. Attach the first section of pipe and lower jet into well.
4. Add pipe until the jet is positioned 5 – 15 feet (1.5 m to 4.5 m) below the lowest anticipated water level. The jet should never be closer than 5 feet (1.5m) from the bottom of the well or sand and sediment may be drawn into the system.
5. With the jet in position, fill the pipes with water to make sure the rubber cups are sealed against inside of the well casing. It may be necessary to move the jet up and down to seat the cups.
6. Install the casing adapter and the horizontal pipes.
7. Slope both pipes upward toward the pump to eliminate trapping air. If the horizontal distance exceeds 25 feet (7.5 m), see chart 2 for the recommended pipe sizes.

DEEP WELL PUMP WITH HORIZONTAL AND VERTICAL STORAGE TANK (FIGURES 6 AND 7)

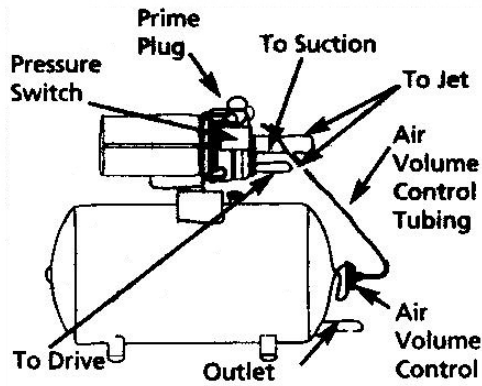


Figure 6 - Horizontal Tank

1. Install the air volume control on the tank as shown.
2. Connect the copper tube from the air volume control to the 1/8 " NPT opening directly above the 1 1/4" opening on the front of the pump.
3. Install a valve and isolating hose between the system and the house plumbing to aid in pump removal for servicing and for reducing noise transmitted through the house piping.
4. Provide a hose bib (faucet) at the lowest point in the system to drain for service or storage.

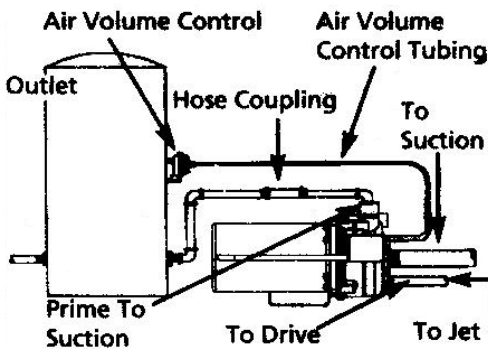


Figure 7 - Vertical Tank

DEEP WELL PUMP WITH PRECHARGED STORAGE TANK (FIGURE 8)

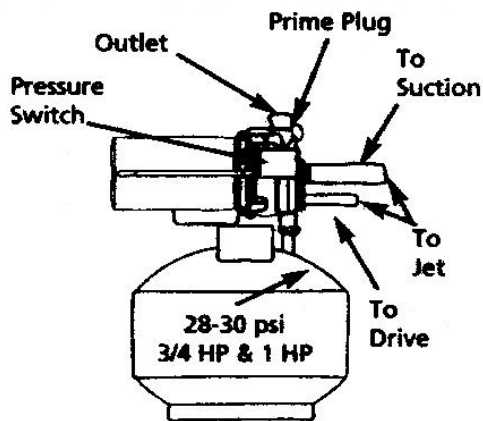


Figure 8 - Precharged Storage Tank

1. Check tank precharge using a tire pressure gauge. The precharge pressure should be 28 – 30 psi on ½, ¾ and 1 Hp models.
2. Check the pressure with the power off, faucets open and no water flowing (zero water pressure).
3. Install a valve and isolator hose between the system and the house plumbing to aid in pump removal for servicing and for reducing noise transmitted to the house through the piping.
4. Provide a hose bib (faucet) at the lowest point in the system to drain for service or storage.

CONVERTING THE DEEP WELL PUMP TO SHALLOW WELL OPERATION (FIGURE 9)

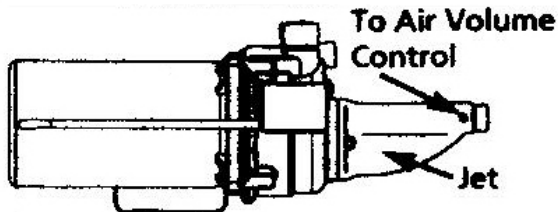


Figure 9 - Shallow Well Jet

For shallow wells (25 feet or 7.5 meters), a bolt-on shallow well jet is available as an accessory for deep well pumps. The jet attaches to the front of the pump with the two bolts provided and converts the deep well pump into a shallow well pump. The shallow well jet has a 1" NPT inlet and a 1/8" NPT opening for an air volume control. For optimum performance, an incline check valve on the inlet side of the shallow well jet is recommended.

Well Jet Assembly:

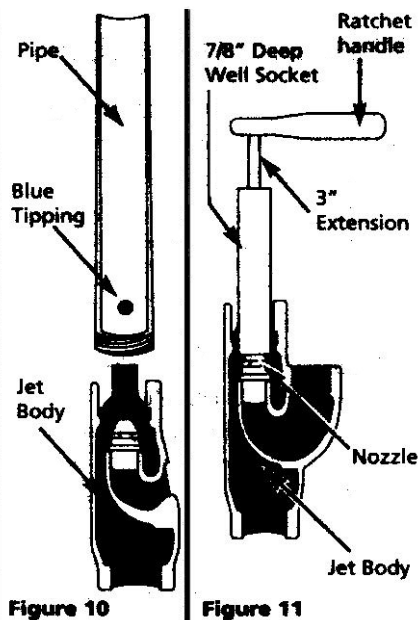
Installation instruction for 2" and 4" Convertible Jet

TOOLS REQUIRED

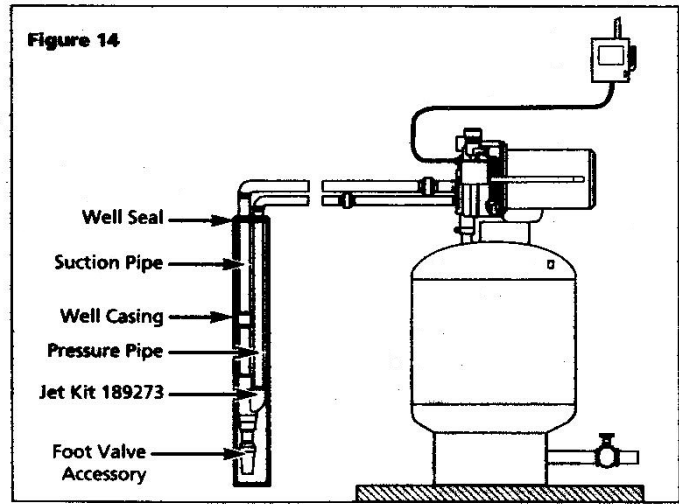
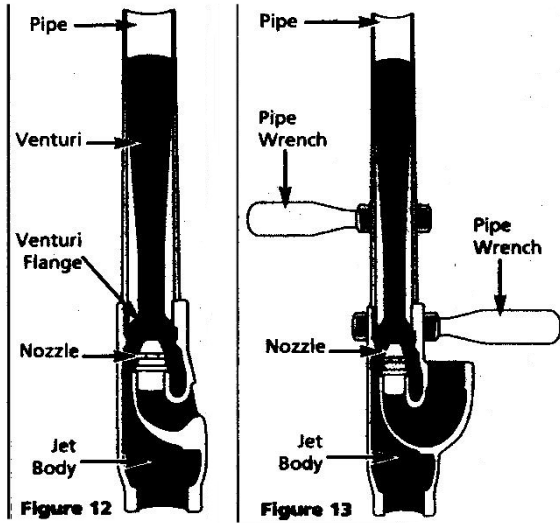
- 7/8 " Deep Well Socket / Wrench
- 3' Extension socket Extension
- Socket Ratchet Handle
- Two (2) Pipe Wrenches

TO ASSEMBLE OR CHANGE JET BODY AND NOZZLE:

1. Using chart 3, determine pump horsepower (Hp) and depth of water. Also select nozzle and venture combination.



2. Remove jet body (blue end) from pipe (Figure 10).
3. Using a 7/8" socket wrench with the extension and ratchet, thread a nozzle selected from chart below into jet body – do not over tighten (Figure 11).
4. Insert venture with flanged end toward nozzle (Figure 12).
5. Thread blue end of pipe into jet body in order to start thread. Place one (1) pipe wrench on pipe and the second (2) pipe wrench on the jet body. Turn wrenches in opposite directions of each other. Continue turning wrenches until venture is tightly sealed and does not move within the pipe (Figure 13).
6. Install back into well (Figure 14).



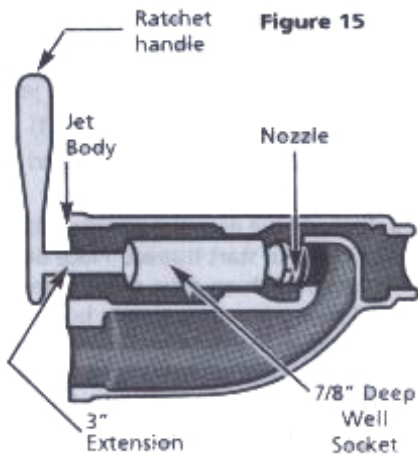
Installation Instructions for Shallow Well Jet Kit

TOOLS REQUIRED:

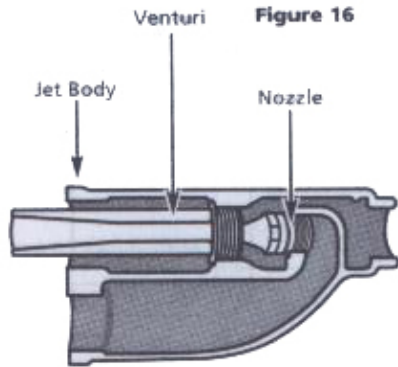
- 7/8" Deep Well Socket / Wrench
- 3' Extension Socket Extension
- Socket Ratchet Handle
- Two (2) Pipe Wrenches
- 1/2" Open End Wrench

TO ASSEMBLE OR CHANGE JET BODY AND NOZZLE:

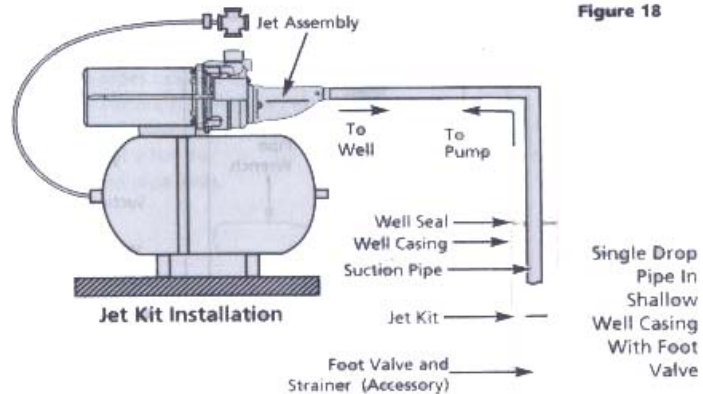
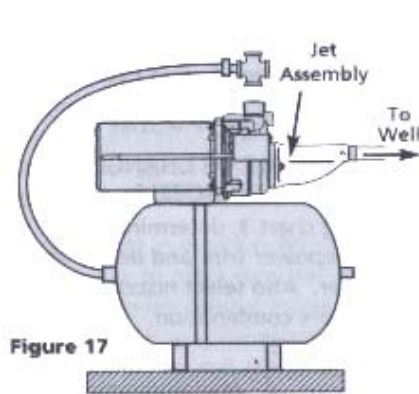
1. Using the chart to the right, determine the pump horsepower (Hp) and depth of water. Also select nozzle and venture combination.
2. Using a 7/8" socket wrench with the extension and ratchet, thread a nozzle selected from chart into jet body – do not over tighten (figure 15).



3. Thread venture into jet body and hand tighten until venture is seated – do not over tighten (Figure 16).



4. Install jet body onto convertible jet pump. Place gasket between jet pump face and flanged face of jet body. Insert bolts and lock washers supplied through jet body and thread into face of pump. Tighten using a ½ " open end wrench (Figure 17).
5. Connect jet body and pump to well (Figure 18).



Electrical:

WARNING: Risk of electrical shock. This pump is designed for indoor installation only.

Select the proper size wire and fuse (Chart 4). Time delay fuses are recommended over standard fused for motor circuit protection. All pump motors have built-in automatic overload protection that will prevent damage to the motor due to overheating.

WARNING: Do not connect to supply until unit is permanently grounded. Connect ground wire to approved ground then connect terminal provided.

A metal underground water pipe or well casing at least 10 feet (3.5 meters) long makes the best ground electrode. If plastic pipe or insulated fittings are used, run a wire directly to the metal well casing or use a ground electrode furnished by the power company.

There is only one proper ground terminal on the unit. The terminal(s) is located under the pressure switch cover, is painted green and is identified as GRD. The ground connection must be made at this terminal (Figure 19).

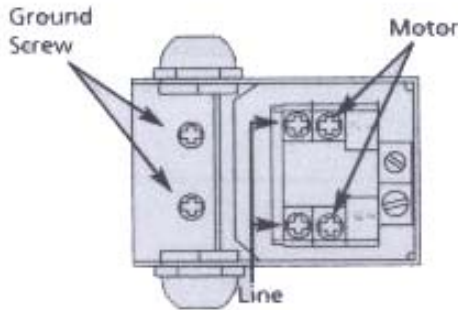


Figure 19 - Electrical Connections

The ground conductor must not be smaller than the circuit conductors supplying the motor.

WARNING: Disconnect power and release all pressure from the system before attempting to install, service or perform any maintenance.

Chart 4		Distance from Meter to Motor				
HP	Volt	Dual Element Fuse 250 V	0 to 50 feet 0 to 15 m Wire Size	51 to 100 feet 15 to 30 m Wire Size	101 to 200 feet 30 to 60 m Wire Size	201 to 300 feet 60 to 90 m Wire Size
1	115	20	12	12	10	8
	230	10	14	14	14	14

Operation:

PRIMING THE DEEP WELL PUMP

WARNING: To prevent damage to the pump, do not start motor until pump has been filled with water.

1. Remove prime plug
2. Fill pump and piping completely full of water.
3. Replace the prime plug.

4. Close the control valve (figure 20) and open a nearby faucet.

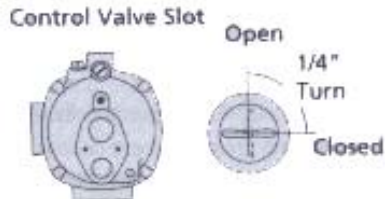


Figure 20 - Control Valve

5. Start the motor. The pressure inside the pump body will build almost immediately as the pump, jet and piping become completely filled with water.
6. Slowly open the control valve. Water will begin to flow. Continue to open the control valve until maximum flow is achieved. Opening the valve too far will cause the water to stop flowing.
7. Adjust the valve until there is a steady flow of water. The valve should be opened as much as possible without losing pressure.
8. Let the system operate for several minutes to flush all piping.
9. Close the faucets and allow the pump to build pressure in the tank. When the pressure reaches the cut-out setting, the motor will stop.

The system is now in operation and will automatically cycle upon demand.

Maintenance:

WARNING: **Disconnect power and release all pressure from the system before attempting to install, service, relocate or perform any maintenance. Lock the power disconnect in the open position. Tag the power disconnect to prevent unexpected application of power.**

CAUTION: **Protect the pump from freezing during winter conditions.**

DRAINING THE PUMP

Drain openings are provided on all models. To drain the pump:

1. Remove drain plug and prime plug to vent the system.
2. Drain all piping to a point below the freeze line.

DRAINING THE TANK

Conventional tanks can be drained by opening an outlet at the lowest point in the system. Remove plug or the air volume control to vent the tank.

Precharged tanks force virtually all the water from the tank when system pressure is released. No draining is necessary.

RESTARTING PUMP

If the pump has been serviced, drained or has not been used for some time, be sure there is water in the pump housing (volute) and the piping to the well. There must be water in the pump housing (volute) at all times when the pump is running to avoid internal damage of seal members. (See Priming the Deep Well Sections).

WATERLOGGED TANKS: CONVENTIONAL

When a tank system has an inadequate ration or air and water, the pump will start and stop often and erratically.

1. Disconnect the power to the pump.
2. Open the lowest faucet in the system to release all pressurized water in the system.
3. Prime the pump (See Priming the Deep Well Sections).
4. Reconnect the power to the pump.

NOTE: As the pump refills the tank with water, the air volume control supplies the tank with the correct air to water ratio for the system to operate. If the air volume control is good, the pump will shut off at the desired cut-off and will be adjusted correctly.

WATERLOGGED TANKS: PRECHARGED

If a precharged tank becomes waterlogged, the bladder is normally leaking or broken.

1. Test the tank by depressing the air valve. The air valve will expel water if the bladder is broken.
2. Replace the tank.

NOTE: Once a bladder is leaking or broken, the bladder cannot be repaired. The tank must be replaced.

LUBRICATION

The bearing used in the pumps are lifetime lubricated at the factory are require no additional lubrication.

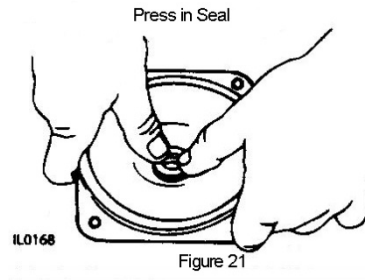
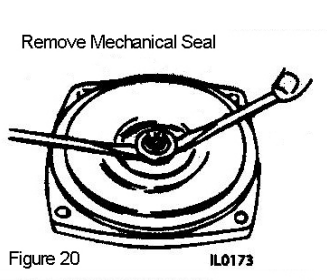
PRECHARGED TANK

Some air is lost through the bladder in any tank. To prevent tank failure, check the tank precharge on a yearly basis.

1. Open a faucet nearest the tank and allow all water to drain from the tank.
2. Measure the tank precharge at the valve stem using a tire gauge.
3. If necessary, adjust the precharge with an air pump 28 – 30 psi on ½ , ¾ and 1 Hp pumps.

MECHANICAL SEAL REPLACEMENT

1. Follow instructions under 'Pump Disassembly'.
2. Follow step 1 and 2 under 'Cleaning / Replacing Impeller'.
3. Remove the mechanical seal assembly.
 - a. Using two screwdrivers, pry the rotary portion of the seal assembly (carbon ring, Buna-N gasket and spring) off the end of the shaft.
 - b. Using two (2) screwdrivers, pry the ceramic seal and rubber gasket from the recess of the mounting ring (See Figure 21).

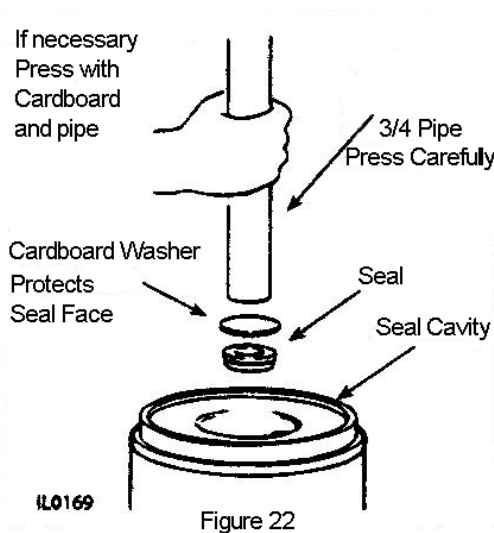


CAUTION: The precision lapped faces of the mechanical seal are easily damaged. Handle the replacement seal carefully. Short seal life will result if seal faces (ceramic and carbon) are nicked, scratched or dirty.

4. Clean the seal cavity of the motor bracket and the motor shaft thoroughly.
5. Wet outer edge of rubber cup on ceramic seal with liquid soap solution. Use sparingly (one drop only).

NOTE: Liquid soap solution – one drop of liquid soap combined with one teaspoonful of water.

6. With thumb pressure, press ceramic seal half firmly and squarely into seal cavity. Polished face of ceramic seal is up. If seal will not seat correctly, remove, placing seal face up on bench. Re-clean cavity. Seal should not seat correctly (See Figure 22).



IMPORTANT: Do not scratch seal face.

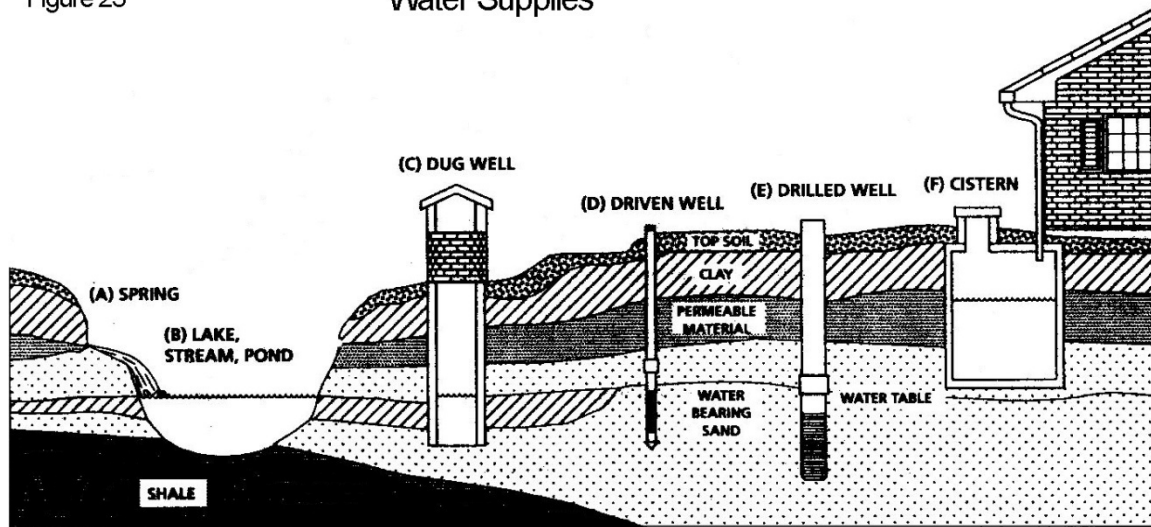
7. Dispose of cardboard washer and recheck seal face to be sure it is free of dirt, foreign particles, scratches and grease.
8. Inspect shaft to be sure it is free of nicks and scratches.
9. Apply liquid soap solution sparingly (one drop is sufficient) to inside diameter of rubber rotating member.
10. Slide rotating seal member (carbon face down toward ceramic face) and spring over the shaft.

IMPORTANT: Be sure not to nick or scratch carbon face of seal when passing it over threaded shaft end of shaft shoulder. The carbon surface must remain clean, or short seal life will result.

11. Hold motor shaft with flat blade screwdriver and screw impeller into shaft. Tightening impeller will automatically locate seal in correct position.
12. If removed for inspection, remount seal ring and diffuser to the motor mounting ring.
13. Reassemble the pump body (Ref. No. 10) to the motor mounting bracket.

Figure 25

Water Supplies



(A) SPRING:

A spring that emerges from the ground. Occurs when water in permeable materials is trapped between impermeable material as rock or clay.

(C) DUG WELL:

A hole is excavated several feet in diameter to a fairly shallow depth. It is then lined with brick, stone or concrete to prevent cave in.

(E) DRILLED WELL:

(B) LAKE, STREAM or POND:

Surface water, unless treated, is usually not safe for human consumption. It may be used for purposes such as washing or irrigation

(D) DRIVEN WELL:

Pipe with a pointed screen is driven into the ground below the water table. The depth is usually less than 50 feet. Available diameters are 1" through 2".

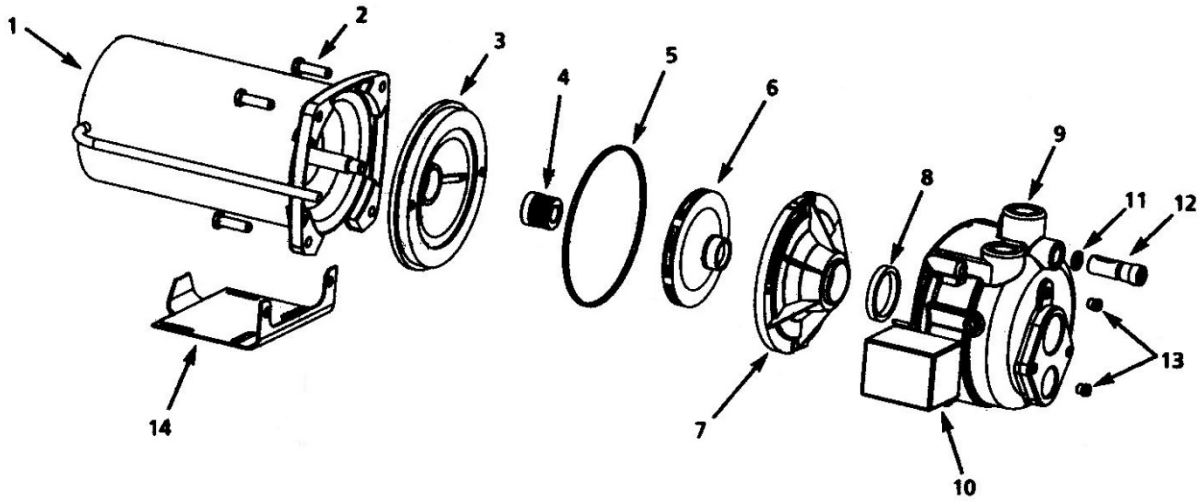
(F) CISTERN:

A hole bored into the earth with machinery and lined with pipe. Depths range from a few feet to over 1000 feet. Common well diameters are 2", 3", 4" and 6" for domestic water wells.

An underground tank built to collect rain water from rooftops.

Troubleshooting Chart		
Symptom	Possible Cause(s)	Corrective Action
Pump will not run	<ol style="list-style-type: none"> 1. Power off 2. Blown fuse or tripped breaker 3. Faulty pressure switch 4. Motor overload tripped 	<ol style="list-style-type: none"> 1. Turn power on or call power company 2. Replace fuse or reset circuit breaker 3. Replace switch 4. Let cool. Overload will automatically reset
Motor hums but will not run	<ol style="list-style-type: none"> 1. Low line voltage 2. Wiring too small 3. Damage or misalignment causing rotating parts to bind 	<ol style="list-style-type: none"> 1. Rewire. See Chart 4 2. Rewire. See Chart 4 3. Replace or take to a technician for repair
Pump runs but delivers little or no water	<ol style="list-style-type: none"> 1. Water level below pump intake 2. Control valve open too far (deep well) 3. Discharge not vented while priming 4. Leaking in piping on well side of pump 5. Well screen or inlet strainer clogged 6. Clogged nozzle (deep well) 7. Air volume control diaphragm ruptured 8. Foot valve may be clogged or stuck closed 9. Pump not fully primed 10. Control valve completely closed (deep well) 11. Water level below maximum lift specification 12. Undersized piping 13. Gaseous well 14. Distorted venture 15. Incorrect jet for application 	<ol style="list-style-type: none"> 1. Lower suction pipe further into well 2. Repeat priming procedure 3. Open faucet, repeat priming procedure 4. Repair piping as needed 5. Clean or replace as necessary 6. Pull jet and clear obstruction 7. Repair or replace air volume control 8. Clean or replace as needed 9. Continue priming, pausing every 5 minutes to cool pump body. Refill pump as needed 10. Adjust control valve per deep well priming procedure 11. Select applicable pump and / or jet assembly 12. Replace as needed 13. Install baffle on pump intake to prevent gas from entering system 14. Inspect and replace 15. Purchase a jet matched to your

Overload trips	16. Undersized pump	system when replacing another brand pump
	17. Pump cavitates, sounds like pumping gravel	16. Increase horsepower of pump 17. Increase suction plumbing diameter or decrease pipe friction
Pump Starts and stops too often	1. Incorrect line voltage	1. Rewire. See Chart 4
	2. Damage or misalignment causing rotating parts to bind	2. Take to motor repair shop or locate and repair mechanical binding
	3. High surrounding temperature	3. Provide a shaded, well ventilated area for pump
	4. Rapid cycling	4. Pump starts and stops too often section
	1. Water logged tank (conventional tank)	1. Replace tank or air volume control
	2. Air volume control tubing kinked or clogged	2. Clean or replace as needed
	3. Air volume control tubing connected to wrong opening on pump	3. Move to correct pump opening
	4. Incorrect tank precharged (precharged tank)	4. Add or release air as needed
	5. Ruptured diaphragm / bladder (precharged tank)	5. Replace tank
	6. Leak in house piping	6. Locate and repair leak
	7. Foot valve or check valve stuck open	7. Remove and replace
	8. Motor overload tripping	8. See overload trips section
	9. Improperly adjusted pressure switch	9. Readjust or replace switch
All rewiring and motor repairs must be done by a licensed or certified professional		



Parts List		
1	Motor	1
2	Screw	4
3	Seal plate	1
4	Shaft seal assembly	1
5	Square ring rubber gasket	1
6	Impeller	1
7	Diffuser	1
8	Rubber seal ring	1
9	Volute	1
10	Pressure switch	1
11	O-ring	1
12	Control Valve (includes # 11)	1
13	Pipe plug 1/8"	2
14	Base	1

Performance:

Model No	Motor Hp	Suction Lift (feet)	Discharge Pressure Psi			
			20	30	40	50
TRC750	1	Output in Litres Per Hour				
		5	5733	5542	4232	2812
		10	5187	5187	3904	2730
		15	4505	4505	3576	2184
		20	3767	3767	3276	1820
		25	2867	2867	2867	1547