



INSTALLATION INSTRUCTIONS

101 / 105 SERIES

SUBMERSIBLE DEEP WELL PUMPS or "SUB-PACS"

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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 your carrier or your point of purchase.

Please read these instructions carefully. **Failure** to comply to instructions and **designed** operation of this system, may **void** the warranty.



**THESE
INSTRUCTIONS
ARE VALID FOR
2 AND 3 WIRES
(+GROUND)
DEEP WELL
PUMP
INSTALLATION.**

Safety Instructions :

This fine pump that you have just purchased is manufactured with the highest quality materials and workmanship. Before installation and operation, we recommend the following procedures :

- A** 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.
- B** WE RECOMMEND THAT A DEDICATED CIRCUIT BE WIRED 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. IN ADDITION, MAKE SURE THAT THE POWER SOURCE VOLTAGE MATCH THE MOTOR VOLTAGE SPECIFICATION.
- C** NEVER MAKE ADJUSTMENTS TO ANY ELECTRICAL APPLIANCE OR PRODUCT WITH THE POWER CONNECTED.
- D** ENSURE THAT THE PUMP AND PIPING SYSTEM IS PROTECTED AGAINST BELOW FREEZING TEMPERATURES. PUMP DISCHARGE PIPING MUST BE INSTALLED BELOW THE FROST LEVEL TO YOUR AREA.
- E** ENSURE THAT THE WELL AND THE WATER BEING PUMPED IS FREE FROM SAND. HAVE YOUR WELL TEST PUMPED TO ENSURE THAT THE WATER IS CLEAR. LARGE AMOUNTS OF SAND WILL CLOG THE PIPING AND WATERWAYS. WARRANTY IS VOID IF SAND OR OTHER ABRASIVES ARE DETERMINATED AS THE CAUSE OF PUMP FAILURE.

Monthly mandatory check-up:

1. Inspect the incoming water supply pipe to detect any deterioration.
2. Inspect the pressure tank to detect any deterioration.
3. Check the condition of the tank " T " and the proper functioning of the pressure switch.
4. Clean the area of any paper or other debris.
5. Ensure that any structure or combustible material is kept at a sufficient distance from the pipe and tank. All stored material must be kept away from the pipe or tank. Closets or cabinet structures should not be near the pipe or tank. Do not install shelves above the tank.
6. Ensure that the electrical cables are securely connected to the terminals of the control box (if applicable), at the pressure switch, and the electrical panel.
7. Visually inspect the piping to ensure that it can safely supply water in the residence.

General Instructions :

Your submersible pump is a high quality design and, should be installed in a well that is clean, straight, and of sufficient capacity. Never install your submersible pump where it is resting on the bottom of the well. A clearance of 10 feet (3.0m) from the bottom of well is recommended. If the well does not have an appropriate water recovery capacity, a liquid level control or a L.O.P. pressure switch have to be install.

The 3 wired (+ ground) model, submersible pump is supplied with a motor control box. This control box should be installed in a clean dry location, in vicinity of the pressure tank. The dedicated electrical circuit should have its own fused disconnect switch in the line leading to the pressure switch.

YOUR OWNER'S MANUAL WILL DISPLAY A NUMBER OF DIAGRAMS AND PICTURES TO HELP YOU WITH YOUR INSTALLATION.

Material required for a drilled well application

Deep well pump installation

- Desired length of polyethylene 1" pipe, 100 PSI, CSA or UL approved, to link up from pumping level to pump.
- 1 Poly rope
- Well seal (150156)
- Pitless adaptor (150155)
- 1" Male brass adaptors (750871)
- 1" Stainless steel clamps (750885)
- Teflon tape
- Pressure relief valve 1/2" NPT
- Torque arrestor (150158)

Tank installation

- Desired length of 1" braided hose (750919) to link up from pump to tank. Keep tank as close as possible to the pump.
- 1 Tank "T" (650651)
- 1 1/2" Drain valve (650659)
- 1 1/2" Safety valve (150162)
- 2 1" Female adaptor (750949)
- 1 1" Galvanized or brass elbow
- Pressure gauge (750769)
- L.O.P. pressure switch (150159S)
- 1/4" X 3" Galvanized or brass nipple
- Teflon tape



Tools

Screwdrivers, hacksaw to cut pipe, knife to assist in pipe cutting, round file to smooth pipe ends, pipe wrench, adjustable wrench to tighten fittings, propane torch and welding material.

INSTALLATION STEPS

BEFORE YOU START

Information regarding your well may be obtained from your well Driller's log.

If no information is available, you can determine the depth of the well by lowering a heavy (small) weight tied to a long cord or fishing line. Lower the weight to the well bottom, take up the slack, and mark line where it meets the top of the well. Remove the weight from the well and measure line to determine well depth. Repeat the operation with a dry cord. Mark the line at the top of the well and where it become wet. You now know where is the water level.

Please remember, a submersible pump should not be lower than 10 feet from the bottom of the well an no higher than 10 feet below the water level.

If you are replacing your old pump with a new pump of similar horsepower and capacity, install the new pump at the same level in the well. If a new pump is larger in horsepower (ie: replacing a 1/2 HP with a 3/4 HP) or if the pumping capacity is higher (ie: providing 7 GPM instead of 5 GPM), set the pump deeper in the well provided that the well will support the additional volume.

150143 (4 tubes) / 150152 (3 tubes) HEAT SHRINK SPLICING KIT SHRINKING TECHNIQUE

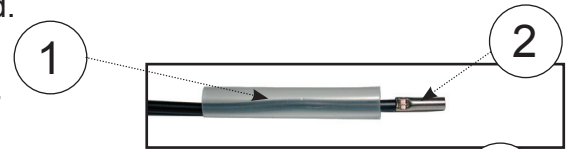
Shrinking can be accomplished through the use of a thermo gun or flame torch with a utility head or other broad flame. Begin at one end of tubing. Keep tubing out of direct contact with flame. Keep flame moving back and forth. Progress toward other end as tubing shrinks and wrinkles disappear. Keep the flame moving. To prevent electric shock, make sure that the power supply is disconnected.

STEP 1

Strip approximately 1/4" (6mm) of wire insulation from both end of wires to connect. Clean wires about 3" from ends and put tube over one end.

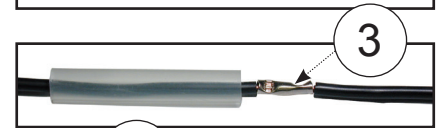
STEP 2

Insert one wire end into wire connector and crimp it.



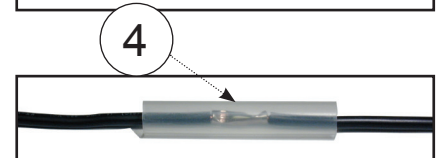
STEP 3

Insert the second wire end into wire connector and crimp it.



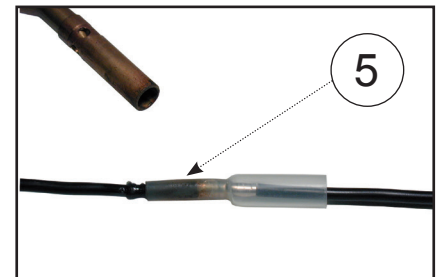
STEP 4

Set the connector in the middle of the tube.



STEP 5

Shrinking can be accomplished through the use of a thermo gun or flame torch with a utility head or other broad flame. Begin at one end of tubing. Keep tubing out of direct contact with flame. Keep flame moving back and forth.



STEP 6

Progress toward other end as tubing shrinks and wrinkles disappear. Keep the flame moving. A small amount of glue should be visible around the ends of the tube.

STEP 7

Allow the tube to cool before installing the pump.

STEP 8

Put together all spliced wires and use electrical tape to cover the complete heat shrink from beginning to end.

ELECTRICAL INSTALLATION

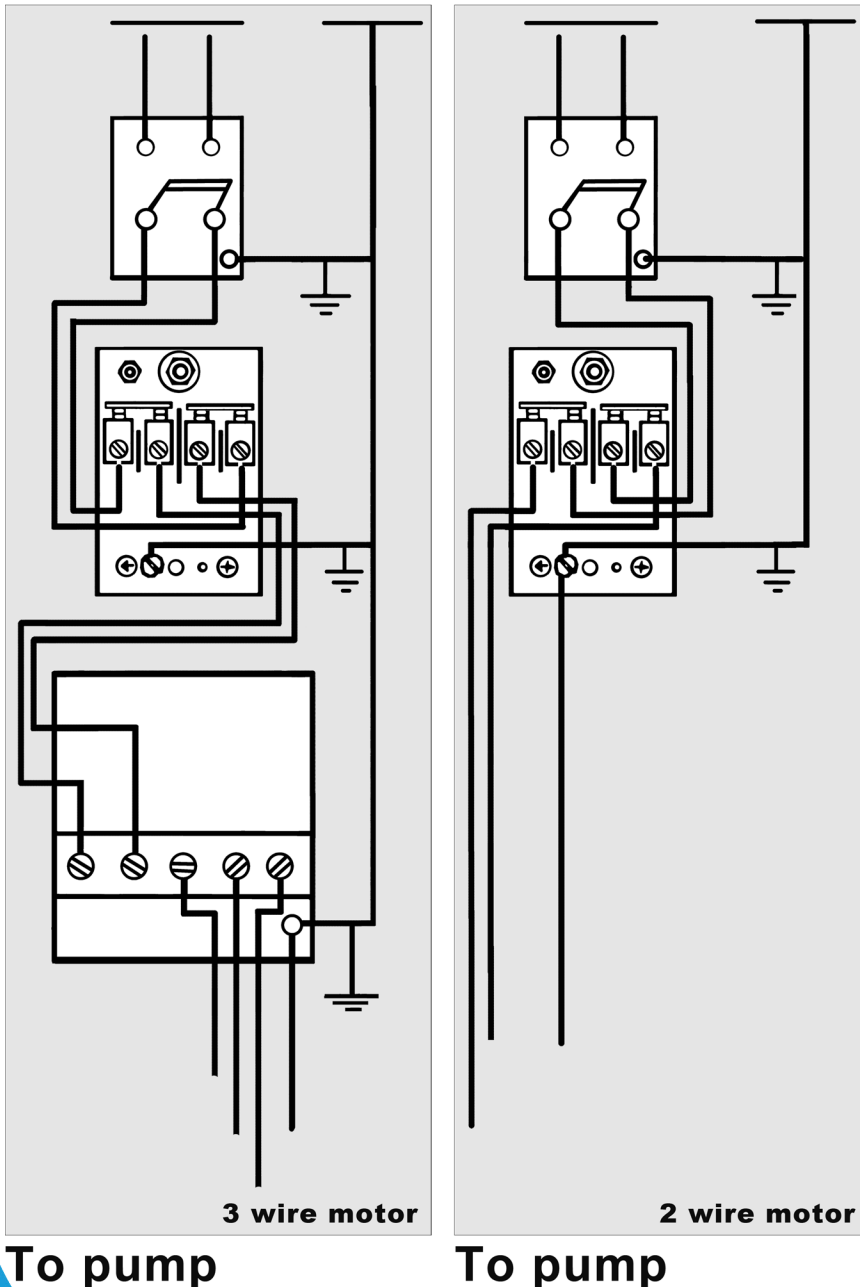
STEP 9

We recommend that a licensed electrician be employed to do wiring to the pressure switch. Permanently ground the motor in accordance to the electrical codes for your area.

Do not use an extension cord to connect your pump to the power source. From your distribution panel to the pressure switch, install a wire gauge not smaller than 14 gauge. See the wire chart below for wire length above 100’.

Electrical installation diagram

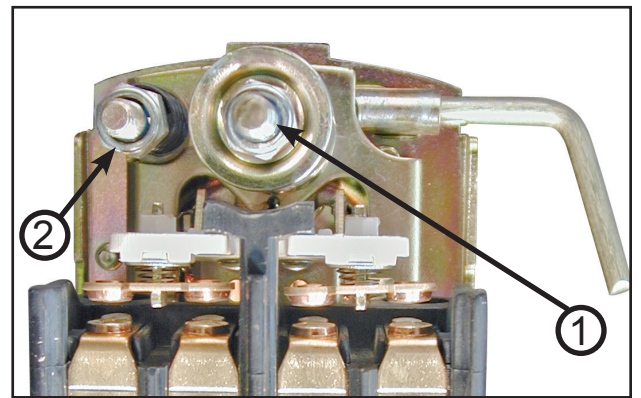
From electrical distribution



Pressure switch setting (start/stop 20/40 or 30/50) has been made in factory. An adjustment may be done to give other operating pressures.

The pressure switch setting was done at the factory (start/stop 20/40 or 30/50). Adjustment or modification of start/stop setting of pressure switch have to be done carefully. **Turn adjustment nut 1 half turn at the time.**

Turn nut 1 clockwise to raise start and stop pressure setting. **Never turn nut 2. This will change the 20 PSI range between start and stop pressure and may damage your tank's bladder or modify the efficiency of your water system.** Check system operation after each adjustment.



WIRE CHART

HP	V	GAUGE				
		14	12	10	8	6
1/2	115	100'	160'	250'	390'	620'
1/2	230	400'	650'	1020'	1610'	2510'
3/4	230	300'	480'	760'	1200'	1870'
1.0	230	250'	400'	630'	900'	1540'
1.5	230	190'	310'	480'	770'	1200'

**If you need other configuration, contact us.*

STEP BY STEP INSTALLATION INSTRUCTION FOR YOUR NEW DEEP WELL PUMP

STEP 1

Lay the pump on the ground a foot or two from the well head with the discharge end pointing away from the well. Connect the power cables to the motor lead using the heat shrink kit. Review the instruction on the previous page. If you have purchased a Sub-Pac, the wire and splicing kit will be attached to the motor pigtail.

STEP 2

Your submersible pump is equipped with a check valve installed in the discharge opening of the pump. With teflon tape, wrap the threads on a 1" male adaptor or on a 1 1/4" - 1" reducing male adaptor and with your pipe wrench, install adaptor into opening of the pump discharge. Do not over tighten-snug-up until slightly hard to turn. (Brass adaptors are recommended for long life. Electrolysis will damage galvanised adaptors).

STEP 3

Locate your 1" Plastic Poly Pipe and lay-out on the ground to the desired length for your pump setting in the well. Slide two 1" stainless steel hose clamps over the end of your plastic pipe. With your propane torch, heat this end of the plastic pipe. While warm, slide pipe over adaptor installed in the pump's discharge. With your screwdriver, securely tighten clamps. Use electrical tape to tape the tab ends of the clamps.

STEP 4

To prevent the pump from hitting the side of the well casing and well, and to prevent possible damage to the submersible pump cable when the pump and motor starts in the well, a torque arrestor (150158) is required. Remove torque arrestor from its carton and disassemble into two halves. At 6" or so above the pump's discharge and around the pipe, place each half of the arrestor and with the clamps provided, install the arrestor. Tighten the bottom clamp securely. Then, push the top portion of the arrestor towards the middle so that it expands to the size of inside diameter of your well casing. Securely tighten to the top clamp with your screwdriver. Tape the tab ends of the clamps with electrical tape. We recommend that you install a torque arrestor every 35 m (100') on the well pipe.

STEP 5

Regardless of which method you choose to lead the pump discharge pipe into the home, a trench should be excavated from the well head to the location where the pipe will enter the basement wall. The trench should be excavated so that the discharge pipe is install below the frost level for your area, usually 4-5 feet deep. The typical diagram shown in this manual does not show this trench for your discharge pipe.

STEP 6

To allow easy access to the pump, install a pitless adaptor. The connection to the system supply line (discharge pipe from the pump) is made below ground level and below the frost level for your area. To install the pitless adaptor, the well casing is cut (**see picture 2**) and the pitless adaptor is lowered into place by using a riser pipe connected to the top of the adaptor. The riser pipe should be about 4' long and constructed of 1" steel pipe. Before the adaptor is securely tightened into place on the casing, a 1" brass male pipe adaptor should be installed in the bottom opening on the pitless adaptor and one more adaptor installed in the discharge connection leading from the pitless adaptor. Use teflon tape on all thread connections and securely tighten with your pipe wrench.

STEP 7

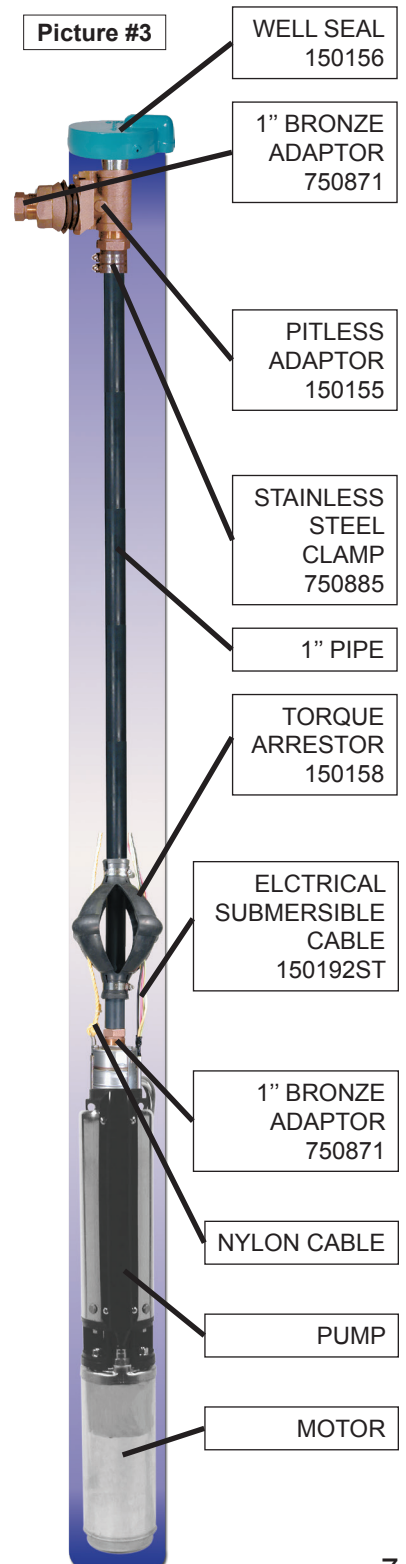
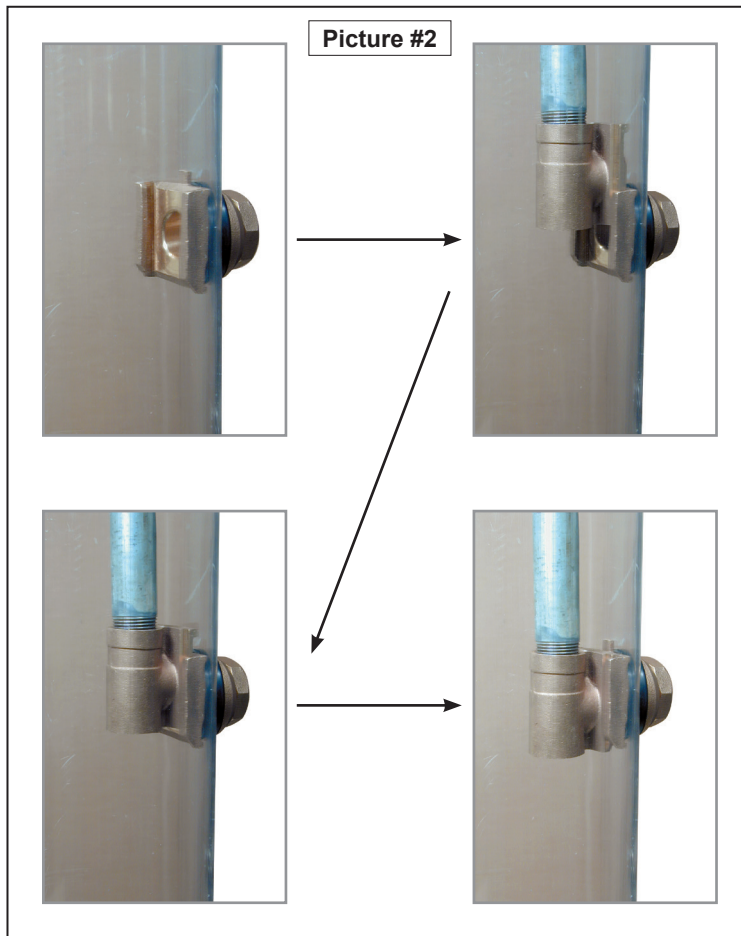
Roll out the submersible pump cable on the ground along side of your 1" plastic Poly pipe. At 5 foot intervals, using your electrical tape, tape the cable to the pipe. This will prevent the cable from hitting the well casing when lowering pump into the well.

STEP 8

Securely attach your 1/4" poly safety rope to the lug provided on the discharge end of your submersible pump. (See picture 1) When lowered, this rope should be long enough to reach the pump setting in your well. As a precaution, the other end of the safety rope should be attached to a pipe of one or two feet in length (galvanized steel) so that should the pump be dropped in the well, while being lowered, the pipe will stop the loss of the safety rope by the pipe coming to rest across the diameter of the well casing.

STEP 9

With the aide of your helper, it is now time to lower pump and piping assembly into your well casing. Following this operation, fix the safety rope to an anchor on the side of the well casing. Install the well cap and fix it after carefully placing the power cables and the safety rope in the appropriate opening. You can now attach the power cables to the pipe in the trench, using electric tape. Align the pipe and the power cables in the trench, from the well to the basement wall. Make sure the length of pipe and power cables is long enough inside the basement to reach the tank position. Prior to fill the trench, test the whole system.



AIR PRESSURE TANK INSTALLATION

STEP 10 for captive air tanks

When using a pressure tank with your pump, we recommend that you install a captive air tank where the air pressure is injected at the factory. **(See our installation diagram.)** This air, which is in addition to atmospheric pressure, increases the ability of the tank to deliver more water between the on/off cycles. This provides greater efficiency for your water system. Connect the pump discharge to the T, using adaptors and braided hose, then, connect the other side of the tank T to your home's plumbing distribution line.



Make sure that the precharged air pressure (before connecting the tank) is 2 PSI less than the starting pressure set on the pressure switch of your pump.

If you adjust the air pressure after the installation, follow these steps:

- Check the starting pressure of the pump on the pressure gauge;
- Disconnect the power to the pump;
- Open nearest faucet to the tank and relieve all pressure in tank, then close the faucet;
- Adjust the air pressure of the tank (by pumping or removing air at the snifter valve) 2 PSI below pressure switch "ON" setting;
- Turn power back on to pump.

Your tank is now well precharged. Run the pump through a few cycles to verify that it works properly.

STEP 11 for epoxy or glass lined tanks

Other types of tanks may be used, such as galvanized standard tanks, epoxy or glass lined tanks. However, these products do not achieve the benefits of the captive air tanks.

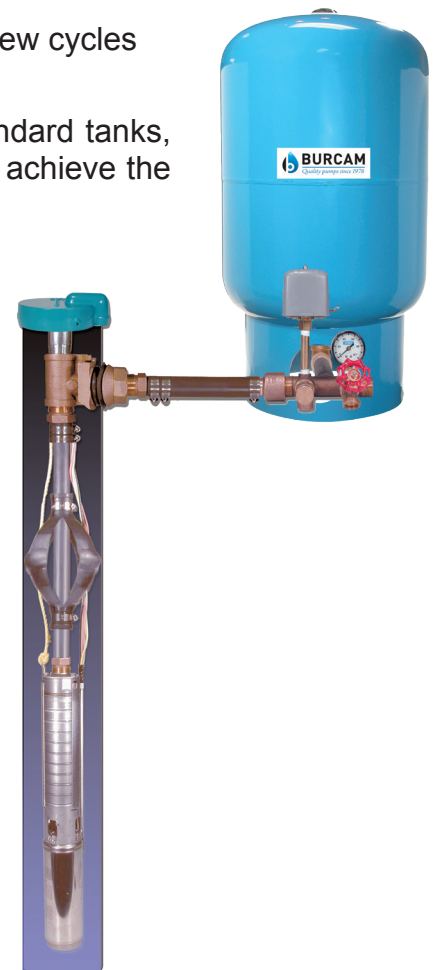
Epoxy or glass lined tanks with float have to be precharged by the installer. Assuming tank is plumbed to pump and all connections are checked for leaks, follow these steps:

- Run pump through one complete cycle, until pump shuts off;
- Disconnect the power to the pump;
- Open nearest faucet to the tank and relieve all pressure in tank, then close the faucet;
- Close service line in gate line;
- With a car tire pump, inject air into the snifter valve located in the tank. Watch pump pressure gauge and stop pumping air when pressure reaches 2 PSI below pressure switch "ON" setting;
- Return power back on to pump;
- Run pump through one complete cycle;
- Open service line gate valve.

Your tank is now well precharged. Run the pump through a few cycles to verify that it works properly.

Not
recommended
for galvanized
tanks

Galvanized standard tanks require an air volume control and are to be used with a jet pump. We do not recommend the installation of this type of tank with your submersible pump. This type of galvanized tank is recommended only with piston pumps.



AIR PRESSURE TANK INSTALLATION

STEP 1

“ Free-Standing type tanks have to be install offset from your pump, and in the discharge line coming from your pump’s discharge connection (either a jet or a submersible pump). Turn your tank on its side and install a galvanized 90° elbow (1” or 1 1/4” as per needed) to the inlet-outlet connection, using an ample supply of teflon tape on the threads.

STEP 2

Determine the position or location in wich you wish to leave your tank permanently. Leave ample room to make your tank connections.

STEP 3

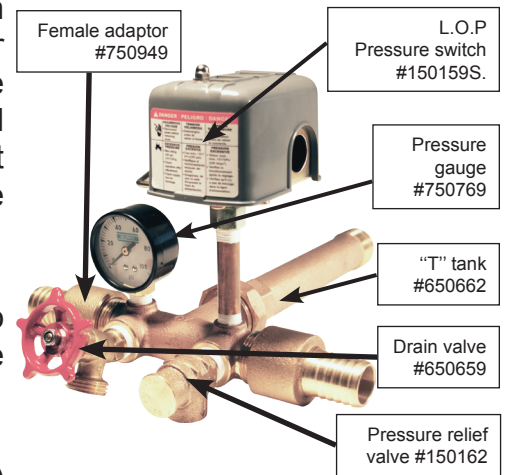
Screw the long end of the tank “T” (650651 or 650662) to the tank elbow’s using teflon tape. If required, install a reducing adaptor 1 1/4” - 1” NPT.

STEP 4

Install a pressure gauge (750769) and a pressure switch (750776S) (with a 1/4” X 3” nipple) in the 1/4” opening of the tank “T”. Then, install a drain valve (650659) and a safety relief valve (1501162) in the 1/2” opening of the tank “T”.

STEP 5

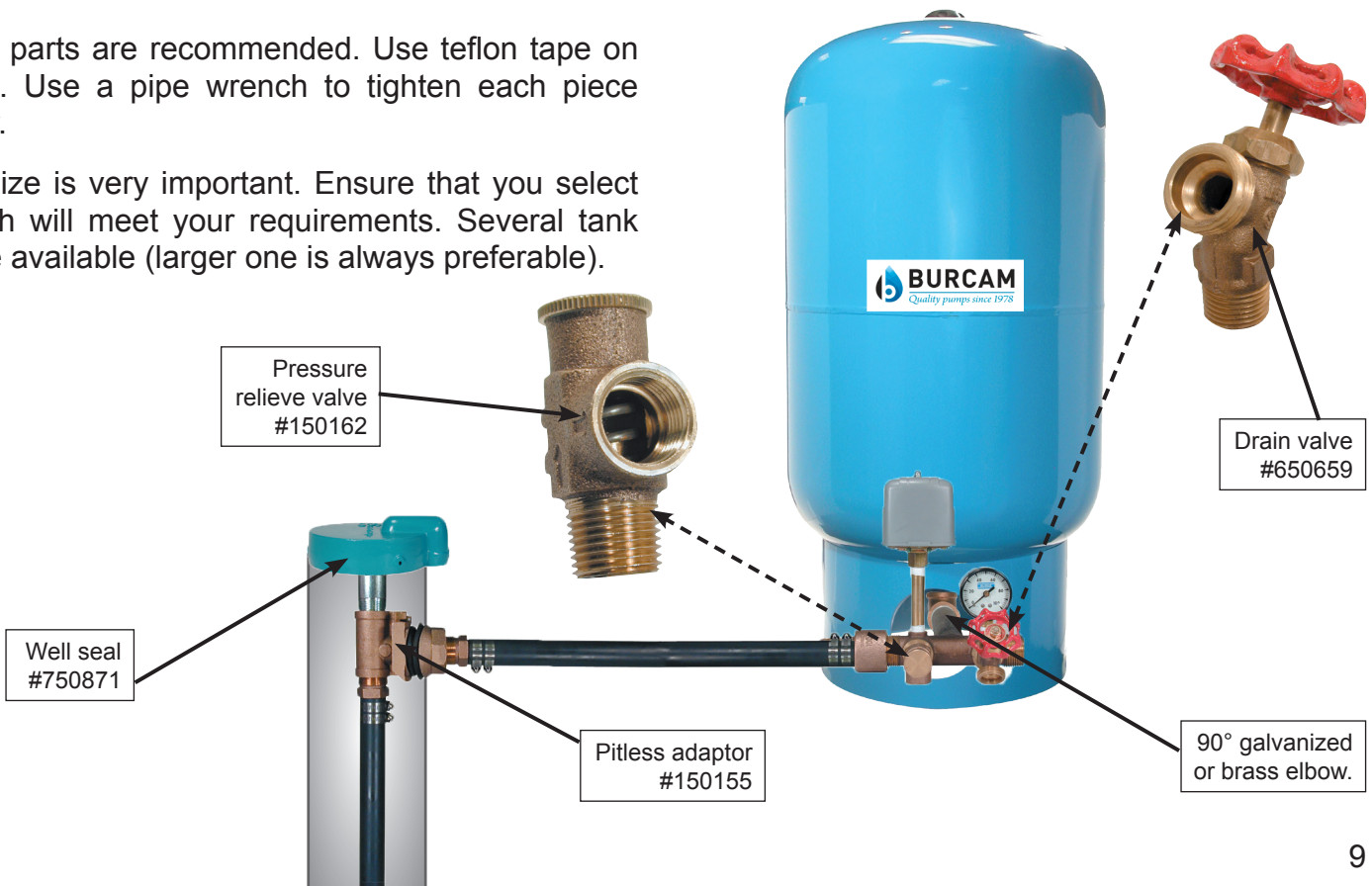
In the service line leading from the tank “T”, we recommend that you install a service gate valve to allow you to shut-off your water supply in the case of repairs to the home’s water fixtures.



Notes:

The above parts are recommended. Use teflon tape on all threads. Use a pipe wrench to tighten each piece adequately.

The tank size is very important. Ensure that you select a tank wich will meet your requirements. Several tank models are available (larger one is always preferable).



REPLACEMENT PUMP MODELS

ALL STAINLESS STEEL 5 GPM 1 - 1 1/4" DISCHARGE

MODELS	HP	V	Wire	Stages
101124	1/2	115	2	13
101125	1/2	115	3	13
101126	1/2	230	2	13
101074	1/2	230	3	13
101134	3/4	230	2	18
101135	3/4	230	3	18
101059	3/4	230	3	18
101144	1.0	230	2	22
101145	1.0	230	3	22
101156	1.5	230	2	26
101154	1.5	230	3	26

NORYL Impellers / Diffusers & STAINLESS STEEL 5 GPM 1 - 1 1/4" DISCHARGE

MODELS	HP	V	Wire	Stages
105130	1/2	115	2	13
105125	1/2	115	3	13
105132	1/2	230	2	13
105127	1/2	230	3	13
105101	1/2	230	3	13
105142	3/4	230	2	18
105135	3/4	230	3	18
105105	3/4	230	3	18
105144	1.0	230	2	22
105145	1.0	230	3	26
105153	1.5	230	2	30
105154	1.5	230	3	30

NORYL Impellers / Diffusers & STAINLESS STEEL 7 GPM 1 - 1 1/4" DISCHARGE

MODELS	HP	V	Wire	Stages
105113	1/2	115	2	10
105114	1/2	115	3	10
105131	1/2	230	2	10
105163	1/2	230	3	10
105108	1/2	230	3	10
105141	3/4	230	2	13
105143	3/4	230	3	13
105109	3/4	230	3	13
105173	1.0	230	2	17
105174	1.0	230	3	17
105182	1.5	230	2	22
105183	1.5	230	3	22

ALL STAINLESS STEEL 10 GPM 1 - 1 1/4" DISCHARGE

MODELS	HP	V	Wire	Stages
101129	1/2	115	2	9
101123	1/2	115	3	9
101130	1/2	230	2	9
101128	1/2	230	3	9
101151	1/2	230	3	9
101131	3/4	230	2	12
101136	3/4	230	3	12
101152	3/4	230	3	12
101147	1.0	230	2	15
101146	1.0	230	3	15
101153	1.0	230	3	15
101158	1.5	230	2	21
101155	1.5	230	3	21
101165	2.0	230	3	27

NORYL Suction / Discharge & S. STEEL (econo serie) 10 GPM 1 1/4" DISCHARGE

MODELS	HP	V	Wire	Stages
105335ST	1/2	115	2	6
105305ST	1/2	115	3	6
105337ST	1/2	230	2	6
105307ST	1/2	230	3	6
105551ST	1/2	230	3	6
105339ST	3/4	230	2	8
105309ST	3/4	230	3	8
105352ST	3/4	230	3	8
105335ST	1.0	230	2	11
105313ST	1.0	230	3	11
105353ST	1.0	230	3	11
105336ST	1.5	230	2	17
105316ST	1.5	230	3	17

NORYL Impellers / Diffusers & STAINLESS STEEL 10 GPM 1 - 1 1/4" DISCHARGE

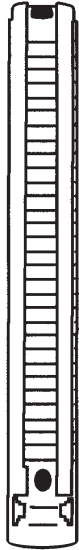
MODELS	HP	V	Wire	Stages
105124	1/2	115	2	6
105126	1/2	115	3	6
105133	1/2	230	2	6
105128	1/2	230	3	6
105103	1/2	230	3	6
105134	3/4	230	2	8
105136	3/4	230	3	8
105107	3/4	230	3	8
105150	1.0	230	2	11
105146	1.0	230	3	11
105161	1.5	230	2	15
105155	1.5	230	3	15

***Bold: Sub Pac models**

Should have more choice depending of your configuration.

REPAIR PARTS

STAINLESS STEEL SERIES



Pump head

Models	Description
111127	13 stages
111135	18 stages
111145	22 stages
111154	26 stages
111128	9 stages
111136	12 stages
111146	15 stages
111155	21 stages

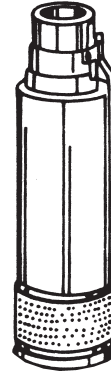
STAINLESS STEEL & NORYL SERIES



Pump head

Models	Description
115307ST	6 stages
115309ST	8 stages
115313ST	11 stages
115316ST	17 stages

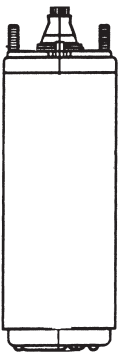
STAINLESS STEEL & NORYL SERIES



Pump head

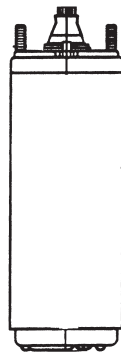
Models	Description
115127	13 stages
115135	18 stages
115145	22 stages
115154	30 stages
115129	10 stages
115139	13 stages
115159	22 stages
115128	6 stages
115136	8 stages
115146	11 stages
115155	15 stages

Pump motor



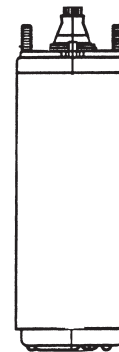
Models	Description
125127	1/2 HP 115V 2 wire
125227	1/2 HP 115V 3 wire
125128	1/2 HP 230V 2 wire
125228	1/2 HP 230V 3 wire
125130	3/4 HP 230V 2 wire
125229	3/4 HP 230V 3 wire
125132	1.0 HP 230V 2 wire
125235	1.0 HP 230V 3 wire
125133	1.5 HP 230V 2 wire
125245	1.5 HP 230V 3 wire

Pump motor



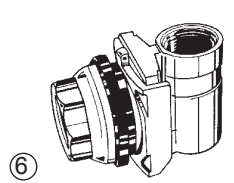
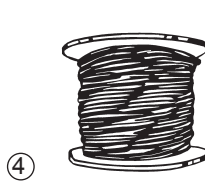
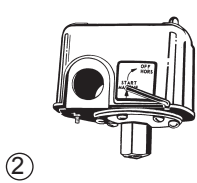
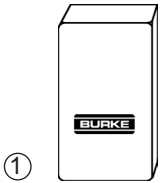
Models	Description
125127	1/2 HP 115V 2 wire
125227	1/2 HP 115V 3 wire
125128	1/2 HP 230V 2 wire
125228	1/2 HP 230V 3 wire
125130	3/4 HP 230V 2 wire
125229	3/4 HP 230V 3 wire
125132	1.0 HP 230V 2 wire
125235	1.0 HP 230V 3 wire
125133	1.5 HP 230V 2 wire
125245	1.5 HP 230V 3 wire

Pump motor



Models	Description
125127	1/2 HP 115V 2 wire
125227	1/2 HP 115V 3 wire
125128	1/2 HP 230V 2 wire
125228	1/2 HP 230V 3 wire
125130	3/4 HP 230V 2 wire
125229	3/4 HP 230V 3 wire
125132	1.0 HP 230V 2 wire
125235	1.0 HP 230V 3 wire
125133	1.5 HP 230V 2 wire
125245	1.5 HP 230V 3 wire

ACCESSORIES



REF.	DESCRIPTION
1 125327	Control box for motor 125227
1 125328	Control box for motor 125228
1 125329	Control box for motor 125229
1 125335	Control box for motor 125235
1 125345	Control box for motor 125245
2 150147S	L.O.P. 30/50 Pressure switch
2 150159S	L.O.P. 20/40 Pressure switch
3 150152	Splicing kit 3 tubes
3 150143	Splicing kit 4 tubes

REF.	DESCRIPTION
4 125425	48" Electrical submersible cable 14-4
4 125430	100" Electrical submersible cable 14-4
4 150192ST	Electrical submersible cable 14-4
5 650652	Short bronze tank Tee 1" NPT
5 650651	10" long bronze tank Tee 1" NPT
5 650662	10" long bronze Tee 1" NPT with union
6 150155	1" bronze pitless adaptor
6 150176	1 1/4" bronze pitless adaptor
6 150177	2" bronze pitless adaptor

Repair parts may be ordered from your authorized point of sale or from

BUR-CAM PUMPS

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.

TROUBLE

PROBABLE CAUSE

ACTION

Motor does not run.



Blown fuse
Tripped breaker
Inadequate power supply
Faulty pressure switch
Faulty submersible cable
Faulty control box
Loose wire connections
Sand-locked pump

Replace
Reset
Check voltage
Check / replace
Check for breaks in cable
Have an electrician, check control box
Check and repair
Pull pump and check for sand, mud or silt

Motor starts too often.

Water logged tank
Pressure switch setting incorrect
Check valve in pump-end stuck Open
Leak in piping system

Repeat step 10
Repeat step 9
Check and replace
Check and repair piping

Motor runs continuously.

Faulty pressure switch
Check valve stuck closed
Low water level in well

Check and replace
Pull pump and check valve, replace valve
Check water level
Install pump lower
Remove pump and check

Motor runs BUT overload protector TRIPS.

Blocked suction intake screen

Control box location not ventilated-too-HOT
Faulty cable or motor
Faulty control box
Incorrect voltage

Check location and change
Have electrician, check for resistance
Replace
Call an electrician

Under no circumstances should the electrician rating of the overload protector be increased or the protector BY-PASSED in an attempt to break free a seized pump. Motor failure invariably results and the warranty is void.

ELECTRICAL TEST: Consult an electrician for all electrical testing.

VOLTAGE TEST: Voltage should be within 10% of the motor nameplate. If more or less, consult your Hydro company.

AMPERAGE TEST: Locked motor-rotor AMPS is 4-5 times normal Amps. IDL AMPS-Less than normal Amps. Pump may be sand locked-pull and clean.

RESISTANCE TEST: if ohmmeter reading is high, the circuit is open. Low reading indicates there is a "short circuit". Situation must be corrected and further check of all wiring is in order.

WARNING: Serious or fatal shock may result from the failure to ground all metal plumbing and the motor to the power supply ground when pump is on the outside of a drilled well. Do not install pump in lake around swimming areas.

