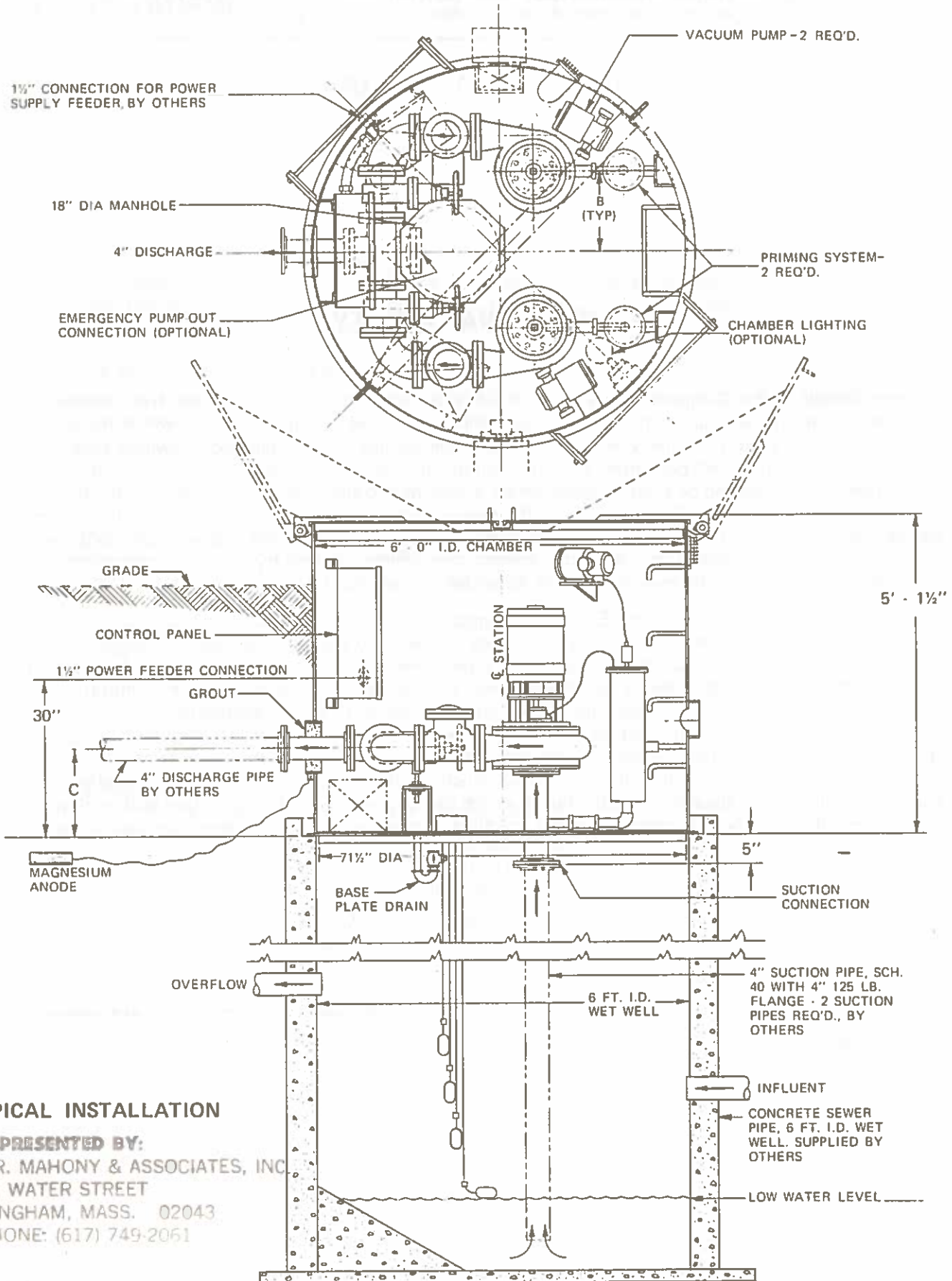




Enpo-Cornell Pump Company
 A DIVISION OF
Roper Industries, Inc. (Ohio)
 420 EAST THIRD STREET, PIQUA, OHIO 45356

**FACTORY BUILT
 POSI-PRIME "TWO"
 PUMPING STATION**

INSTALLATION & MAINTENANCE MANUAL



TYPICAL INSTALLATION

REPRESENTED BY:
F.R. MAHONY & ASSOCIATES, INC.
 57 WATER STREET
 HINGHAM, MASS. 02043
 PHONE: (617) 749-2061



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**FACTORY BUILT
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LIMITED WARRANTY

Enpo-Cornell Pump Company warrants its Posi-Prime Pumping Station to be free from defects in material or workmanship under normal use and service when used in applications for which the design is intended for a period of one year after the date the station is first operated, provided that such operation is by authorized personnel, but the liability on this warranty shall be limited to repair or replacement of any station or a part thereof which is returned to the Enpo-Cornell factory, the nearest service outlet authorized by Enpo-Cornell or, if a component made by another is defective, the nearest service outlet authorized by the manufacturer of the defective component, transportation charges and handling fees prepaid, within the said time period, and which is found by Enpo-Cornell or its duly authorized representative to have been thus defective in material or workmanship.

Except as expressly stated above, Enpo-Cornell makes no warranty of merchantability and no warranty of fitness for any particular purpose nor does it make any warranty, express or implied, of any nature whatsoever with respect to the station, any part thereof, or the use thereof. The foregoing is the full extent of the responsibility of Enpo-Cornell and, by way of illustration and not limitation, in no event shall Enpo-Cornell be liable for delay caused by defects, for consequential damages, or for any charges or expenses of any nature incurred without its written consent. This warranty does not apply to any station or part thereof which has been repaired or altered in a way or at a place not authorized above in this warranty in any respect which, in the judgment of Enpo-Cornell, affects its quality, condition, or operation or any station which has not been placed in operation within 30 days after shipment or has been subject to careless handling, tampering, misuse, accident, damage by flooding or power outage, or faulty or improper installation or application.



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INSTALLATION INSTRUCTIONS

Your Enpo-Cornell Posi-Prime Two Station has been completely pre-tested and adjusted at the factory before shipment. Close adherence to the following instructions will result in the least effort and assure correct installation.

ELECTRICAL SUPPLY –

Have electrical power on site ready for hook-up immediately following the placement of the Posi-Prime Two Station. Damage can be done to electrical circuits, controls, etc., if the Station is left for any length of time without power.

SUCTION PIPE, TWO REQUIRED –

Length of suction pipe equals wet well depth minus (5 inches plus a minimum clearance of 6 inches from the bottom of the wet well to the end of the pipe).

Reduce entrance loss.

Round the inlet end of the suction pipe on the inside diameter.

PLACING OF STATION AND CONNECTING SUCTION PIPES –

Using the lifting lugs provided, position the station above wet well using a hoist with at least 5,000 pound capacity for Station with chamber and 3,000 pound capacity for Station without chamber. Connect the two suction pipes to the flange connections on the underside of the station baseplate. NOTE: Coat the flange faces with John Crane Plastic Lead Seal No. 2 or equivalent and use flange gaskets to ensure vacuum tight connections.

On units with base plate drain, connect the piping assembly supplied with the unit to the coupling on the underside of the station baseplate.

Lower and anchor Station to wet well.

DISCHARGE LINE –

Posi-Prime Two Pumping Stations are manufactured with either horizontal discharge line or vertical discharge line down through the baseplate.

CONNECTING HORIZONTAL DISCHARGE LINE – The four inch flanged end discharge line may be connected with a flexible or flanged joint supplied by others.

CONNECTING VERTICAL DISCHARGE LINE THROUGH BASE PLATE – Connect 4 inch, Schedule 40 piping, supplied by others, to the 4 inch plain end pipe extending through baseplate with the compression fitting supplied with the Station.

CONNECTING ELECTRICAL POWER –

All electrical equipment furnished by Enpo-Cornell Pump Co. have circuit breakers or disconnect switches located in the control panel.

Turn off all circuit breakers or disconnect switches in panel before connecting main power source to station.



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INSTALLATION INSTRUCTIONS (continued)

STATION WITH CHAMBER – The power line is fed into the Station through the 1-1/2 inch N.P.T. pipe coupling located in the side of chamber and wires to be connected to the terminals of the right hand disconnect switch or circuit breaker for the main pumps in the control panel. The power line connection through the chamber must be water tight.

STATION WITHOUT CHAMBER – Power is fed directly into the control panel and connected to the terminals of the right hand disconnect switch or circuit breaker for the main pump.

CONNECTING THE MAGNESIUM ANODE –

STATION WITH CHAMBER ONLY – Connect the anode lead wire to the bolt located on the outside of the chamber near the discharge line. Loosen the bolt and clean the area to bright metal to provide a good connection. Strip 3 inches of insulation from the end of the lead wire. Loop the stripped end of the lead wire around the bolt approximately 2 turns. Tighten the bolt to secure connection. Paint connection area with epoxy touch up paint. Bury the magnesium anode approximately six feet from the Station and six feet deep in the ground.

BACKFILLING –

STATION WITH CHAMBER ONLY – Before backfilling, carefully inspect the Station for handling abrasions. Sand all abrasions to clean metal and paint with epoxy touch-up paint, furnished with the Station by Enpo-Cornell. The life of the Station will be extended by taking care that no bare metal is left exposed.

VACUUM PUMP VENT TO OUTSIDE ATMOSPHERE –

STATION WITHOUT CHAMBER – Connect piping, supplied by others, from the "tagged" 3/8 inch pipe tee outlet located on top of the vacuum pump to outside atmosphere. Use 1/4 inch minimum pipe size for run length up to 6 feet. For run lengths over 6 feet, increase pipe size accordingly.

WET WELL LIQUID LEVEL CONTROL –

See instruction sheet covering appropriate equipment.



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START UP INSTRUCTIONS

Following the service connections and with sufficient pumpage in the wet well, the Station is ready for Start Up.

1. Turn on the electrical power momentarily to one main pump at a time and check motor rotation. NOTE: The shaft seals will be destroyed if the pump is run dry. Rotation is in the direction of the discharge nozzle – counter-clockwise for left hand unit and clockwise for right hand unit facing the entrance ladder. If rotation is backward and the power is three phase, reverse any two of the motor leads. For single phase power, refer to motor nameplate.
2. Turn off electrical power to main pumps after checking rotation of motors.
3. Close discharge gate valves.
4. Turn on circuit breaker for control circuit.
5. Turn on circuit breaker for No. 1 vacuum pump. The vacuum pump will start in approximately 35 seconds after the circuit breaker for the control circuit is turned on, because of the "time delay relay control". NOTE: The time delay relay is used to prevent the vacuum pump from fluttering "off and on" because of the momentary drop in liquid level in the priming chamber when the main pump starts. Also, the time delay relay will stop the main pump in 35 seconds and start the vacuum pump, if the priming level is low. The vacuum pump will draw pumpage from the wet well into the priming chamber and shut off when the priming level is reached. The running time of the vacuum pump varies according to suction lift. The running time for maximum suction lift is approximately five minutes. If the vacuum pump continues to run after five minutes, check for suction pipe leaks.
6. Turn on circuit breaker for No. 2 vacuum pump and repeat operation 5.
7. Turn on electrical power and start one main pump at a time. Open the seal gland vent plug, Item 29 on Parts List, then purge trapped air from the shaft seal chamber. Allow pump to run until a steady flow of water is emitting from vent plug, then close vent plug. NOTE: Running seals dry will destroy them.
8. Open discharge gate valves.
9. Operate alternately each main pump manually until the discharge line is filled. The level of the pumpage in the wet well must be checked while the pumps are being manually operated to prevent a low water condition that will cause pumps to lose prime & to assure that each pump is producing.
10. DRAINS –
STATION WITH BASE PLATE DRAIN HOLE – Fill the drain piping with water. The check valve in the drain will open when water is within approximately one inch from the top. If the drain does not hold water, check the piping connected on the underside of the base plate.
STATION WITH SUMP PUMP – Fill the sump pump pit with water. Turn on circuit breaker for sump pump, located in control panel and check operation of pump and control. Do not pump sump pit dry; leave sufficient water in pit to cover suction end of pump.



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START UP INSTRUCTIONS (continued)

11. AUXILIARY EQUIPMENT -

Turn on circuit breakers, located in the control panel and operate equipment and controls.

12. Turn on the electrical power to the main pump for automatic operation and station is in operation.

NORMAL OPERATION -

With pumpage being supplied to the wet well, the pumps will operate on demand from the wet well's liquid level control. With all controls working properly and no leaks, the system will maintain prime unless the suction pipe is restricted.

The vacuum pump is controlled by a liquid level control located in the vacuum priming chamber and operates only when the priming level is "low". The main pump will not operate in the "automatic position" when the vacuum pump is running. NOTE: Each main pump has its own vacuum pump and priming system and operates as a separate unit.

WARNING!!!! No Smoking in Station. Explosive and toxic gases may be present in wet well chamber below Station floor. Before removing manhole cover to wet well chamber, open both Station cover doors to provide ventilation.

Do not enter wet well chamber without approved safety and ventilation equipment.



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PERIODIC INSPECTION AND MAINTENANCE

The following lists suggested checks to be made during routine maintenance inspection of the Station. Always be sure the power is off in any electrical circuit that must be jumped or disconnected to perform any of the following checks.

Should any check reveal a defective component, refer to the specific repair instructions for that item.

STATION CHAMBER –

Check general appearance of inside of Station. There should be no accumulation of water on Station floor. If there is, disconnect main power supply to the Station at once.

ELECTRICAL CONTROL PANEL –

Check the control panel for blown fuses or tripped circuit breakers in the main pumps and auxiliary equipment circuits. Blown fuses or tripped circuit breakers indicates malfunctioning equipment.

WET WELL LEVEL CONTROLS –

Check the controls to assure the pumps do start and stop at the specified conditions.

HEATER –

The heater is equipped with integral thermostat with 50 – 90 degrees F. temperature range. A knob enables selection of heat level. The thermostat controls both the heater and fan circuit. The heater element is protected with an automatic re-set thermal cut-out which will disconnect the element in case of overheating from any cause and allow the fan to continue to operate. The circuit breaker for the heater is located in the control panel. Before and during cold weather, turn knob to highest setting and check that both the fan and heating element operate.

The front and rear bearings of the fan should be lubricated after three years of duty, not more than 5,000 hours of actual operation, with a good grade of SAE 10 non-detergent oil. The rear grill has to be removed to lubricate the fan.

SUMP PUMP –

Fill the sump pit with sufficient water to start the sump pump and check its operation. Do not pump pit dry; leave sufficient water to cover suction end of pump.

BASE PLATE DRAIN –

Fill the base plate drain with water. The check valve will open when water is within one inch from the top. Pour sufficient water to assure the line is open.

OTHER EQUIPMENT –

All equipment should be started and checked for operation performance.

MAIN PUMPS –

Partially close the discharge gate valves to prevent the pumps from pumping the wet well dry when a low liquid level may exist during inspection check. Pumps equipped with H.O.A. switches mounted on the front of the control panel will start when the switch is turned to the hand position. Pumps without H.O.A. switches have to be manually started for inspection check.



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PERIODIC INSPECTION AND MAINTENANCE (continued)

Start one pump at a time and watch the lever arm on the check valve adjacent to the pump. If the pump is producing, the lever arm will move upward indicating the opening of the check valve by the pump's discharge pressure. The check valve is fully closed when the lever arm is horizontal. If both pumps run when checked but the lever arm on the check valve adjacent to the pump fails to move, indicating pumping, check the following:

1. **ROTATION OF PUMP MOTOR** – Rotation is in the direction of the discharge nozzle, counter-clockwise for left hand unit and clockwise for right hand units facing the priming chamber. If rotation is backward and the power is three phase, reverse any two of the motor leads.
2. **GATE VALVE MAY BE FULLY CLOSED** – Open partially.
3. **CHECK VALVE STUCK CLOSED** – Trip manually.
4. **PUMP SPEED TOO LOW** – Check line voltage for agreement with rating listed on motor nameplate.
5. **VACUUM PRIMING LEVEL TOO LOW** – Check vacuum reading. If vacuum gage reading is "zero", loosen the compression fitting on the hose from the main pump to the vacuum priming chamber, at the vacuum priming chamber. Remove the lower pipe plug on the side of the vacuum priming chamber. If liquid drains from the chamber when the pipe plug is removed, the 1-1/4 line from the suction pipe to the bottom of the vacuum priming chamber is plugged. If the vacuum pump does not start when the liquid has drained from the pipe plug opening, then the vacuum pump, vacuum chamber level control or time delay relay may be defective.
6. **AIR LOCKED** – Remove the pipe plug from the tee located in the by-pass line from the discharge of the pump to the filter for the shaft seal. Purge the trapped air and install plug after a steady flow of liquid is emitting from the opening.
7. If no malfunction is found, restart the pumps (see "Start Up Instructions"). If the pumps still fail to produce after the pumps have been restarted, check the discharge line from the Station for restriction.

If the pump still fails to produce after making the above checks, the impeller may be loose on the shaft or excessively worn. To check impeller, the pump must be disassembled. See "Instruction For Installation and Removal of Double Mechanical Seal", Steps 1 through 6 and 10 through 14 inclusive.

DOUBLE MECHANICAL SEAL –

The shafts of the main pumps are sealed with heavy duty double mechanical seals. The life of the seals are quite long but depend upon pumpage, ambient temperature, pump usage, etc. Filtered pumpage is used to pressurize, cool and lubricate the seals.

The filter, located in the by-pass line from the discharge side of the pump to the seals, must be periodically inspected. The filter should be removed and cleaned only when sediment in the filter bowl, or complete change in color of the filter cartridge is observed. Filter cartridge is white when new. Rapid plugging of the filter cartridge and solids in the filter bowl indicate excess seal leakage and the seal should be checked.

To clean or replace the filter cartridge, close the stop cock located in the by-pass line and then remove filter bowl and cartridge. After cleaning or replacing, open the stop cock, start the pump, then open the seal gland vent plug and bleed the trapped air from the filter. Close the vent plug when a steady stream of liquid is emitting.

NOTE: If the filter does not require servicing, open the seal gland vent plug and bleed off a small amount of liquid to ensure that liquid is getting to the seal.



PERIODIC INSPECTION AND MAINTENANCE (continued)

LUBRICATION -

MAIN PUMP MOTOR - Refer to motor manufacturer's instruction sheet.

VACUUM PRIMING CHAMBER LIQUID LEVEL SENSOR AND VACUUM PUMP -

Under normal operating conditions, the vacuum pump does not operate unless there is a leak in the system or a defective liquid level sensor in the priming chamber. The vacuum pump is controlled by the liquid level sensor in conjunction with a time delay relay. The "normally closed" contact of the time delay relay is connected to the main pump automatic control circuit, while the "normally open" contact is connected to the vacuum pump circuit.

The time delay relay is energized when the contacts in the liquid level sensor close. After the control has been energized for 35 seconds, the contacts change, thus starting the vacuum pump and stopping the main pump from running in the automatic position.

NOTE: The main pump cannot run in the automatic position while the vacuum pump is running. The vacuum pump will run until the liquid level sensor is satisfied.

If a vacuum pump is found running when a Station is inspected:

1. Check for "vacuum lock". (See "Vacuum Breaker")
2. Check vacuum pump. Remove hose from vacuum breaker to vacuum gage, at the vacuum breaker. Using your thumb to plug the end of the hose with the vacuum pump running, the vacuum gage will register 20 inches or more vacuum if the pump is good. With your thumb still in position, turn the circuit breaker in the control panel for the vacuum pump to "off". If the check valve in the line from the vacuum gage to the vacuum pump is good, the vacuum gage will continue to register the same reading. But if the reading reduces, the check valve must be replaced. For repair of vacuum pump, see "Parts List For Vacuum Pump".
3. Check discharge check valve for internal leak. Close the discharge gate valve and remove the cover from the discharge check valve. Inspect the check valve for matter preventing the flapper from sealing.
4. Check wet well for low water or plugged suction pipe.

If the vacuum pump is not found running when a Station is inspected:

To assure the vacuum pump and priming level control are in operating condition, manually reduce the vacuum reading on the system by 4 inches by loosening the compression fitting on the hose from the vacuum breaker to the vacuum gage, at the vacuum breaker. The reduction in vacuum will trip the priming chamber liquid level sensor and start the vacuum pump in approximately 35 seconds. The vacuum pump will reprime the system to the starting vacuum reading and shut off.

VACUUM BREAKER -

The vacuum pump is protected from liquid by the vacuum breaker located in the line from the priming chamber to the vacuum pump.

Prolonged running of the vacuum pump will waterlog the system and flood the vacuum breaker. The float in the vacuum breaker is raised by the flooding liquid and seals the passageway from the vacuum breaker. If the pump continues to run after the float seals the passageway, the vacuum on the pump side increases and overcomes the reopening force of the float - causing a "VACUUM LOCK".

NOTE: The vacuum gage reading when "VACUUM LOCKED" is not on the system but only on the line from the vacuum breaker to the vacuum pump; therefore, the gage reading will be over twenty inches.

When the vacuum breaker is found "VACUUM LOCKED", loosen the compression fitting on the tubing line from the vacuum breaker to the vacuum gage. Purge off the vacuum until the float drops, allowing the liquid to drain from the vacuum breaker. Then tighten compression fitting.



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TROUBLE SHOOTING

MAIN PUMPS –

Runs But Will Not Pump:

1. Pump rotating backwards.
2. Gate valve closed.
3. Check valve stuck.
4. Pump speed too low. Check to see if line voltage is same as rating of pump.
5. Vacuum priming level too low. (See "Vacuum Priming Chamber Liquid Level Sensor and Vacuum Pump" – page 9)
6. Suction pipe plugged.
7. Impeller clogged.
8. Discharge line plugged.
9. Discharge head too high.
10. Pump air locked.

Runs But Will Not Shut Off:

Check liquid level control for sticking contacts or float.

Check magnetic starter for sticking contacts.

Check manual override switch, as it may be turned on.

Will Not Run:

No. 1 – Check Voltage At . . . Line terminals in motor control box.

If No Voltage. Check line fuses and/or circuit breakers.

If Voltage Proceed to No. 2.

No. 2 – Check Voltage At . . . Pump motor terminals in motor control panel.

If No. Voltage. Check magnetic starter overloads and liquid level controls.

If Voltage Check starting switch and capacitor on 1 phase motors.
Check pump for binding impeller.

VACUUM PUMP –

Runs Continuously:

See "Vacuum Priming Chamber Liquid Level Sensor and Vacuum Pump" –page 9.



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REPAIR INSTRUCTIONS

INSTALLATION AND REMOVAL OF DOUBLE MECHANICAL SEAL –

1. Disconnect electrical power to pump requiring service and turn the circuit breaker for the servicing vacuum pump to "off".
2. Close gate valve on pump being serviced.
3. Disconnect the bleed line from pump to top of vacuum priming chamber.
4. Disconnect the piping from the filter to the seal chamber.
5. Remove the bolts holding the backside plate No. 38 to the volute.
6. Using a suitable lifting rig, withdraw the motor and impeller assembly straight up from the volute housing. Use the eye bolts, located on top of motor, for lifting purposes.

7. DISMANTLING –

IF THE SEAL IS TO BE SAVED:

- A. Remove the vacuum bleed line.

MODEL NH – Remove bolts holding motor bracket to backside plate.

- B. Unbolt the seal gland and **carefully** move it back on the shaft. The drive end stationary seat will usually remain in the seal gland, so use care not to damage these parts.

- C. Remove impeller lock screw.

- D. Remove impeller.

MODEL NN & NM – Pumps have two 1/2-13 tapped holes in the backside plate. Using two 1/2-13 x 3 1/2" long bolts as jackscrews in these holes, proceed to tighten the jackscrews equally until the impeller is free from the motor shaft.

MODEL NH – Same as above, except the two tapped holes are in the motor bracket instead of the backside plate.

- E. Remove backside plate assembly (complete with stuffing box).
The pump end stationary seat will usually remain in the seal chamber.
Use care not to damage these parts.

- F. Remove seal friction rings.

NOTE: Before removing the friction rings, carefully check the end of the shaft sleeve for burrs and upsetting. Clean the shaft sleeve of deposits and burrs, using care not to scratch or nick the shaft sleeve. Oil the shaft sleeve and work one seal friction ring at a time from the shaft sleeve.

- G. Remove the seal gland. Clean contaminants from all parts, including the seal chamber, using care not to scratch or mar the sealing surfaces.

IF THE SEAL IS TO BE REPLACED:

- A. Use same procedure except that extreme care of sealing surfaces and other seal parts need not be exercised.

- B. Remove the stationary seats from the seal gland and seal chamber. Clean seal gland and seal chamber.



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REPAIR INSTRUCTIONS (continued)

8. INSTALLING -

In the case of reinstalling a used seal, some of the parts may not have been removed from the seal gland and seal chamber. In this event, disregard any of the following description which doesn't apply.

Be sure that the bores in the seal gland and seal chamber are thoroughly cleaned and are free of nicks and burrs. Coat the bores with a light grade of oil. Position the stationary seat on the seal gland bore with the polished side (sealing face) toward you. Use every caution not to scratch face and press against the cardboard to mount the stationary seat. Be sure the seat is squarely and firmly mounted. Follow the same procedure to mount stationary seat in the backside plate assembly. Slide seal gland, complete with capscrews and gasket, on the shaft sleeve as far as possible or until the back of the stationary seat touches a shaft shoulder. Do not jar the stationary seat out of position in the seal gland.

Again, remove all burrs; clean, polish and oil the shaft sleeve. Be sure the end of the shaft sleeve has a slight radius with no sharp edge. Lightly oil the inside diameter and sealing face of the seal friction rings. Slide the drive end seal friction ring on the shaft sleeve until the sealing surface contacts the stationary seat in the seal gland. Remove the sealing washer from the seal friction ring assembly for the pump end to prevent damaging the sealing face. Slide the compression ring and seal friction ring on the shaft sleeve and compress the seal assembly just far enough to mount the sealing washer on the shaft sleeve. **CAUTION: Over-compressing the assembly will locate the pump end seal friction ring out of position and cause leakage.**

Line up the bore of the backside plate assembly with the shaft and carefully mount the backside plate assembly to the motor bracket. **CAUTION: If the bore of the backside plate is not carefully lined up with the shaft, the sealing surface of the stationary seal mounted in the plate will strike the end of the shaft or shaft sleeve and be ruined.**

Bolt the backside plate assembly to the motor bracket.

Line up the seal gland and seal gland gasket squarely and evenly tighten the capscrews.

NOTE: Air check the seal assembly for leakage immediately after the seal has been mounted on the shaft. If the seal assembly is checked immediately and found to be defective, the seal can easily be relocated because the friction rings will not have had time to permanently set to the shaft sleeve.

SEAL AIR CHECK -

Connect an air line to the seal water connection in the backside plate assembly. With a suitable shut-off valve and gage in the line, apply 50 to 60 P.S.I. air pressure and hold for 15 to 30 minutes.

9. Install impeller on shaft.
10. Lower unit into position on volute and reassemble unit.
11. Turn on electrical power for vacuum pump. The vacuum priming chamber liquid level sensor will start the vacuum pump and prime the system.
12. Turn on electrical power to repaired pump and check motor rotation.
13. Open discharge gate valve and start repaired pump. Open the seal gland vent plug and purge the trapped air from the seal chamber. Close vent plug when a steady flow of water is emitting from the vent plug. **NOTE:** Running seals dry will destroy them. Pump is now ready for operation.
14. Turn on all electrical power.



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REPAIR INSTRUCTIONS (continued)

REPLACING VACUUM PRIMING CHAMBER LIQUID LEVEL SENSOR -

1. Turn off electrical power to main pumps, vacuum pumps and control circuit.
2. Disconnect tubing connections located on top of vacuum priming chamber.
3. Remove bolts holding vacuum priming chamber cover and lift cover straight up (sensor is mounted to cover).
4. Remove respirator assembly; disconnect tubing connector fitting. Remove clamp holding respirator assembly to pipe. Remove end cover from protector housing and withdraw respirator bag.
5. Remove level sensor. Remove the two bolts holding the sensor to the mounting block and withdraw the sensor until the wires from the sensor to the plastic feed through can be disconnected. (Push on pin connection.)
6. Remove plastic feed through and gasket from mounting block and replace with new ones supplied with sensor. Use a needle pliers to hold the terminal wire leads while pushing the feed through pins into position. Connect new level sensor leads to feed through and bolt unit to mounting block.
NOTE: Be sure gasket is in position and gasket surfaces are clean.
7. Provide air volume for respirator contraction. Roll up the respirator bag, starting from the side opposite the inlet tube, leaving a length of 2.125 inches unrolled. Inflate the unrolled portion of the respirator bag by blowing air from the mouth into the inlet tube. Hold the rolled portion so it cannot inflate. With the unrolled portion inflated, place one finger over the end of the tube to prevent the inflated air from escaping from the respirator bag. Unroll the respirator bag and distribute the inflated air through the bag. Place the respirator bag into the protector housing and release finger from end of tube. Install protector housing end cover.
8. Connect respirator assembly to level sensor.
9. Place assembly into position and reassembly. **NOTE:** Use a new cover gasket if required.
10. Station is ready for operation.

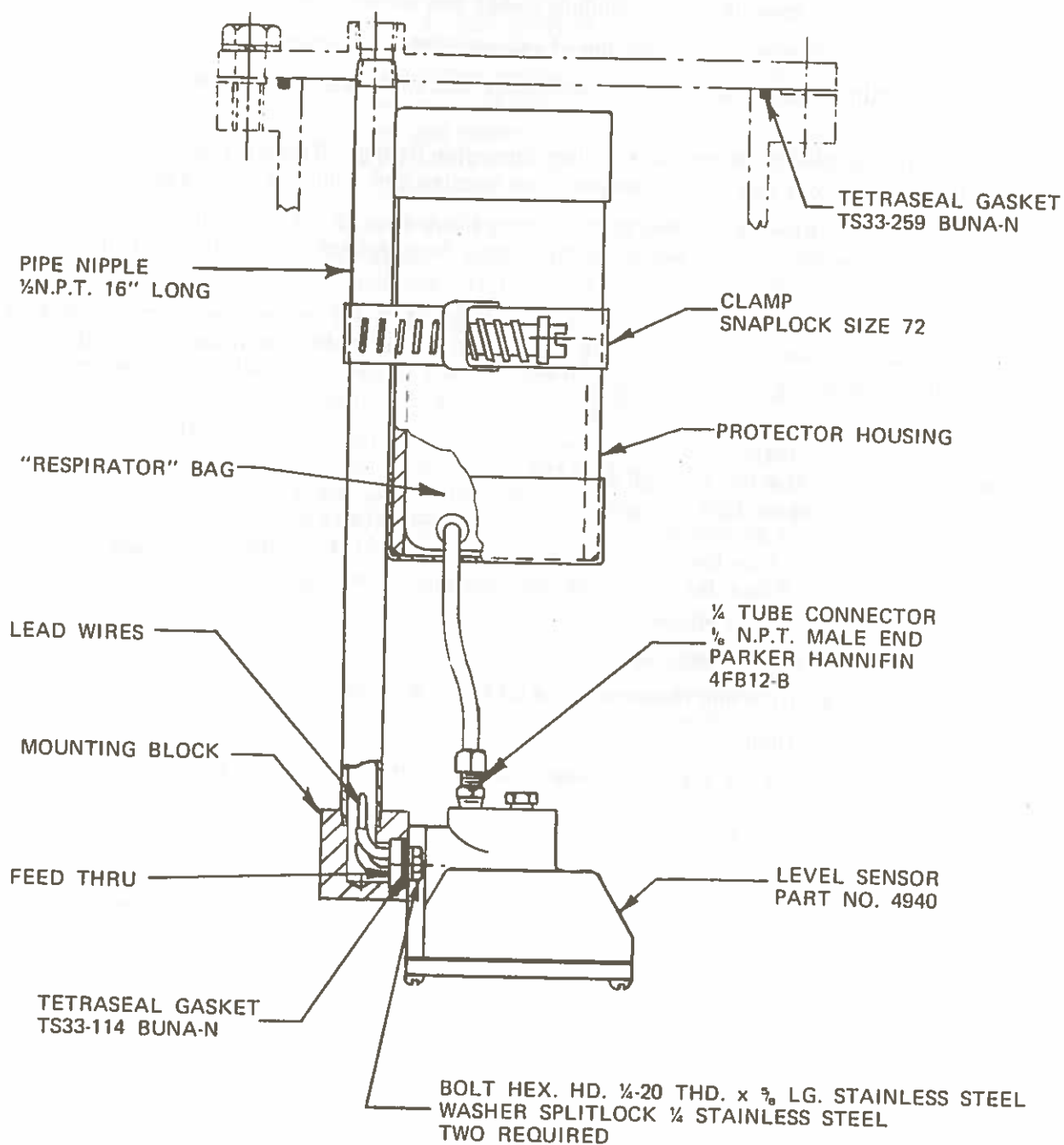
Follow procedure for placing Station in operation as noted on "Installation Instruction Sheet".



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PARTS LIST VACUUM PRIMING CHAMBER LIQUID LEVEL SENSOR

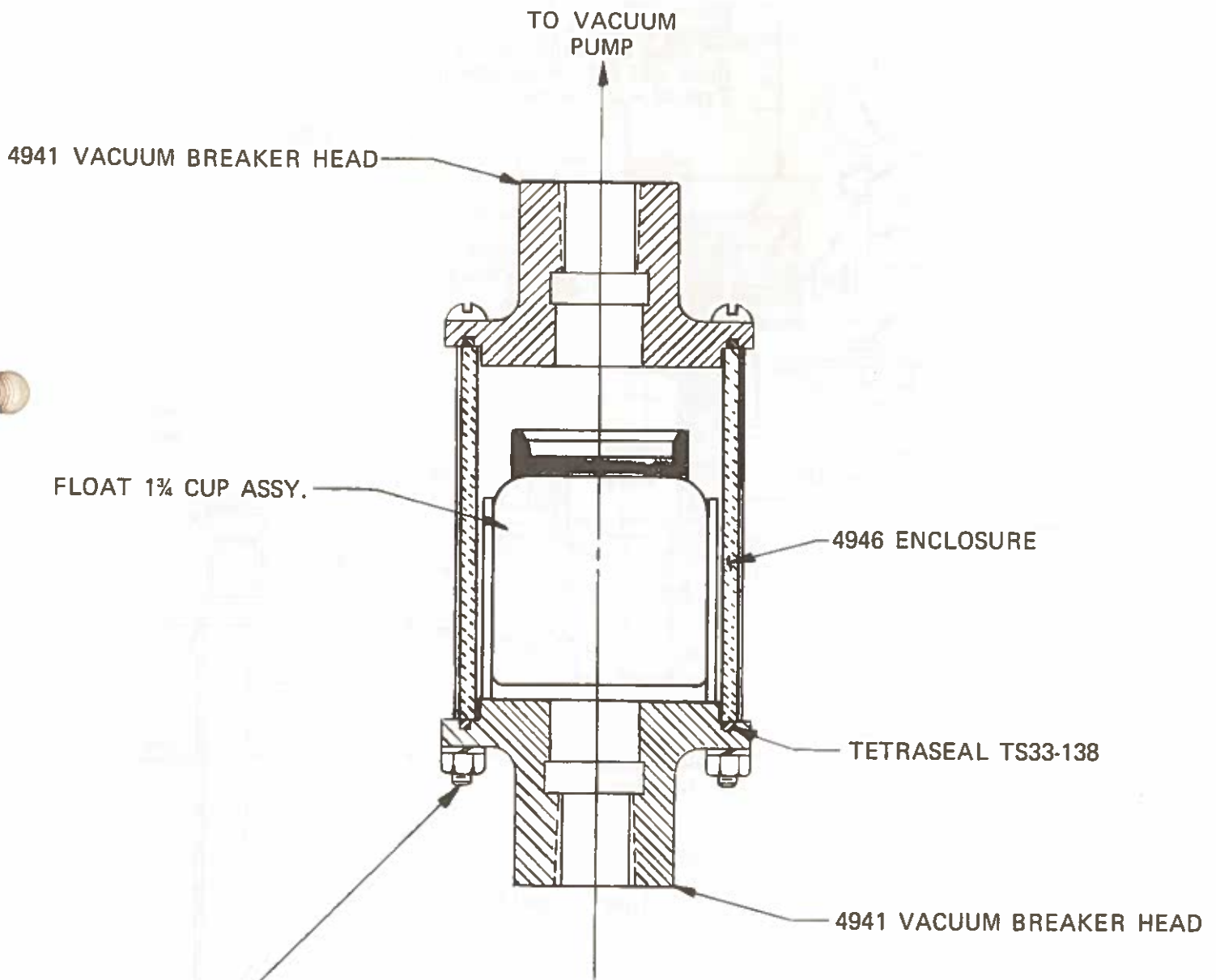




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PARTS LIST 4937 VACUUM BREAKER



BOLT RD. HD. #10 - 32 THD. x 3 3/4 LG.
WASHER SPLIT LOCK #10
NUT #10 - 32 THD. HEX.
(ZINC PLTD. STEEL 4 EACH REQ'D)



Enpo-Cornell Pump Company

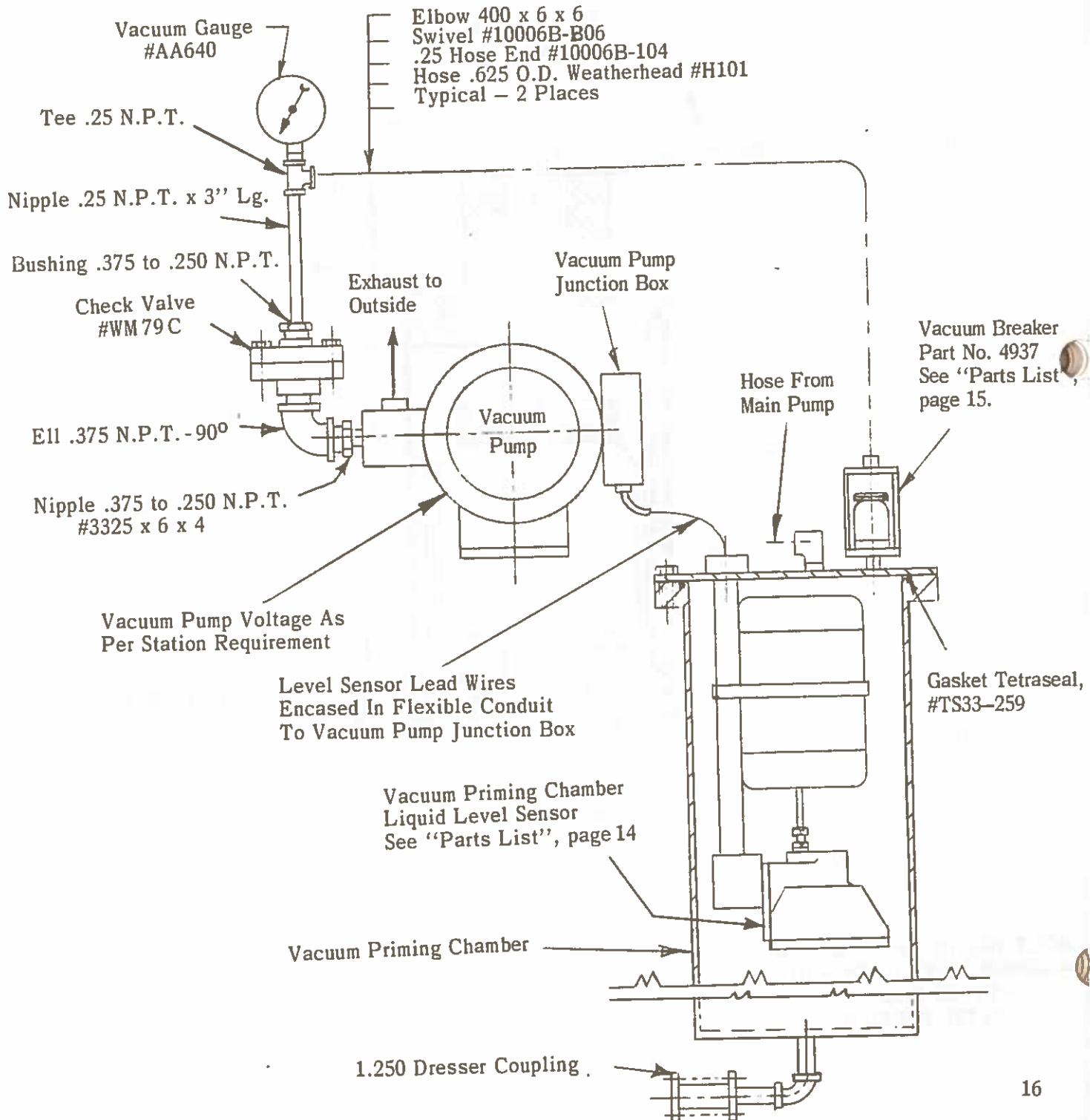
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Roper Industries, Inc. (Ohio)

420 EAST THIRD STREET, PIQUA, OHIO 45356

**FACTORY BUILT
POSI-PRIME "TWO"
PUMPING STATION**

**PARTS LIST
VACUUM PRIMING CHAMBER,
VACUUM PUMP, PIPING & EQUIPMENT**

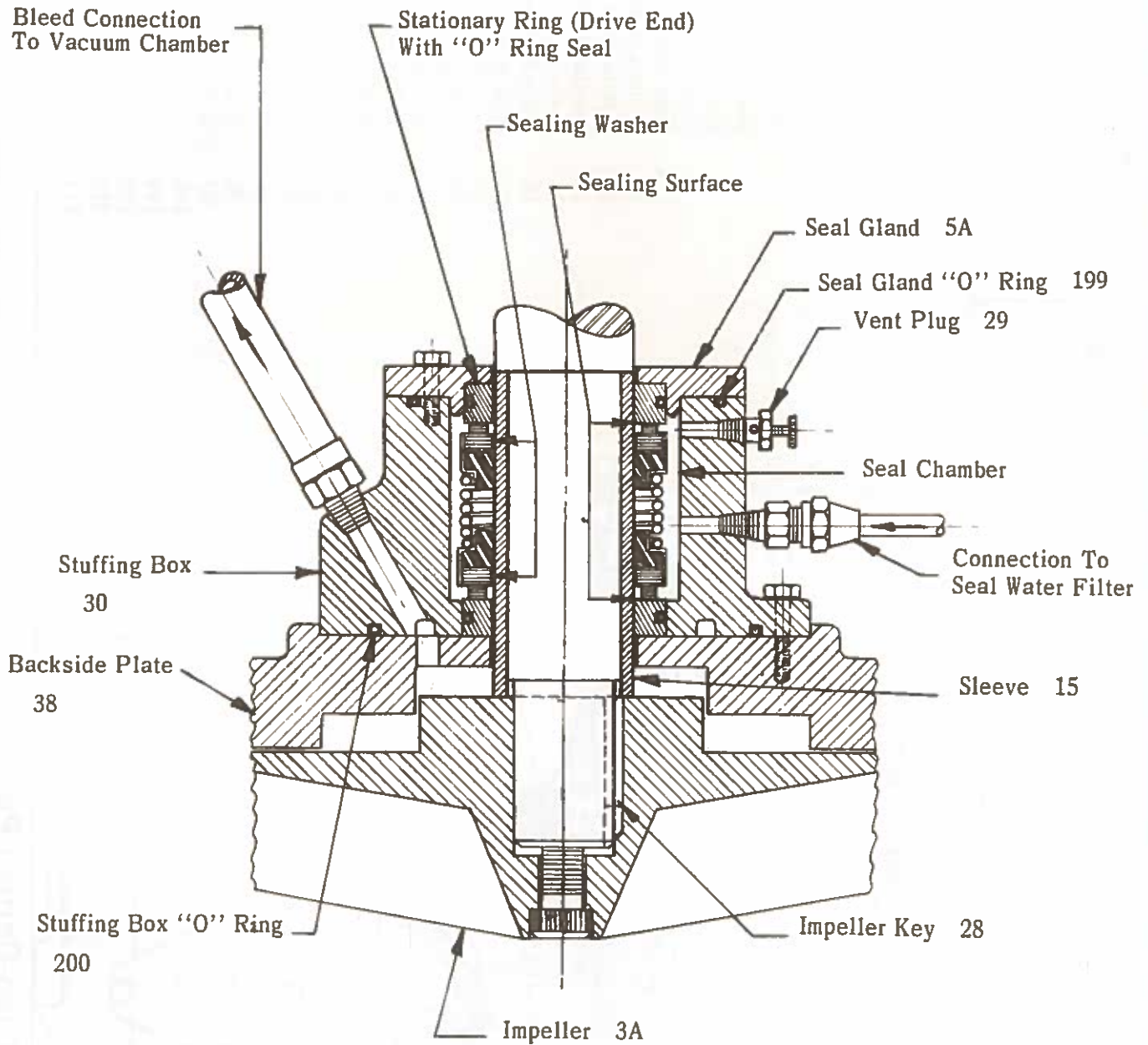




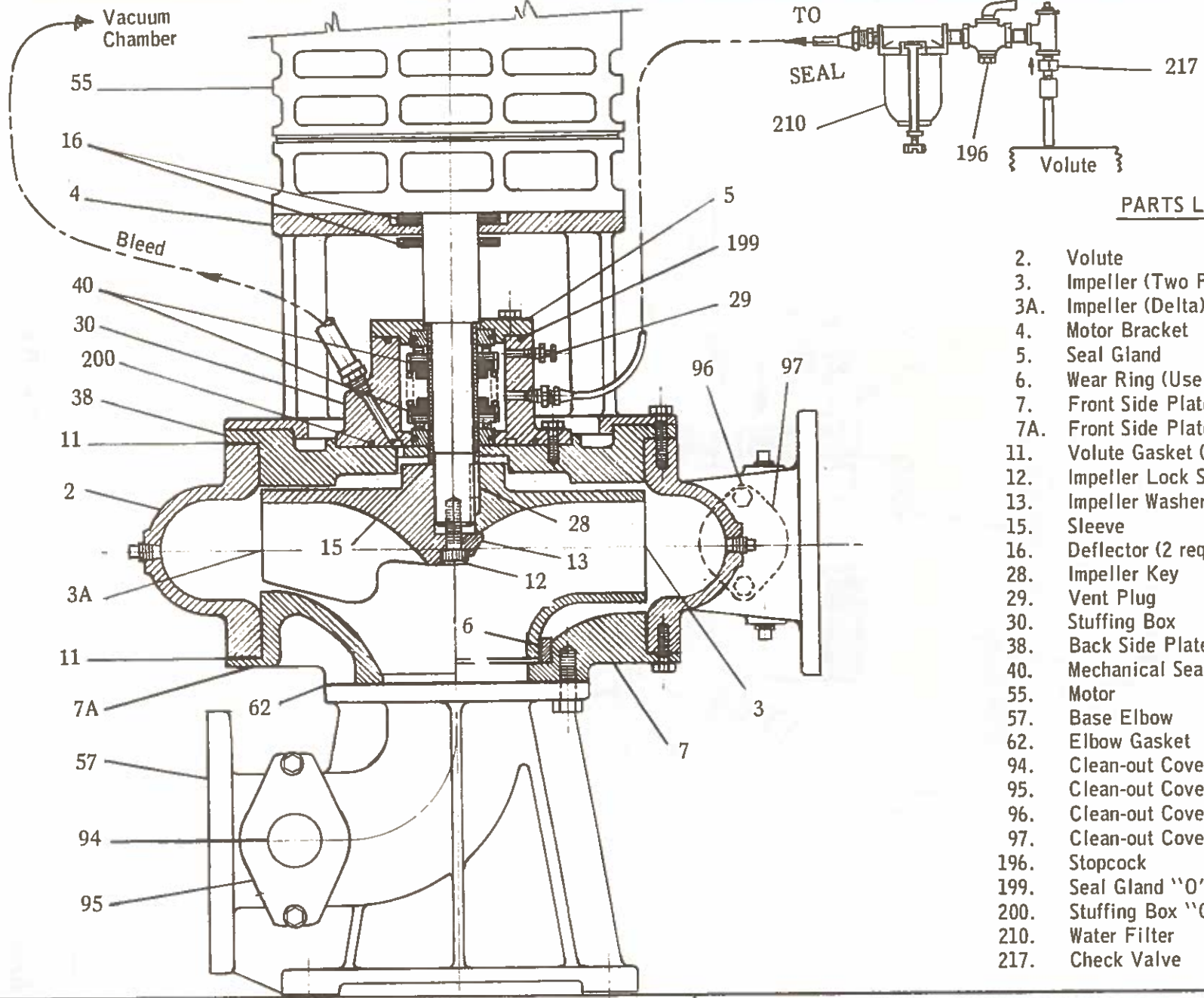
CENTRIFUGAL PUMPS

DOUBLE MECHANICAL SEAL (40)

SEAL LUBRICATION - WATER



Enpo-Cornell Pump Company A DIVISION OF
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PARTS LIST

- 2. Volute
- 3. Impeller (Two Port)
- 3A. Impeller (Delta)
- 4. Motor Bracket
- 5. Seal Gland
- 6. Wear Ring (Use with #7 only)
- 7. Front Side Plate (Use with #3 only)
- 7A. Front Side Plate (Use with #3A only)
- 11. Volute Gasket (2 required)
- 12. Impeller Lock Screw
- 13. Impeller Washer (Use with #3 only)
- 15. Sleeve
- 16. Deflector (2 required)
- 28. Impeller Key
- 29. Vent Plug
- 30. Stuffing Box
- 38. Back Side Plate
- 40. Mechanical Seal (Double)
- 55. Motor
- 57. Base Elbow
- 62. Elbow Gasket
- 94. Clean-out Cover (2 required)
- 95. Clean-out Cover Gasket (2 required)
- 96. Clean-out Cover (Volute)
- 97. Clean-out Cover Gasket (Volute)
- 196. Stopcock
- 199. Seal Gland "O" Ring
- 200. Stuffing Box "O" Ring
- 210. Water Filter
- 217. Check Valve

NON CLOG



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**MODEL NM - NN - VERTICAL CLOSE COUPLE
 ELECTRIC MOTOR DRIVE**



PARTS LIST & LEVEL SETTING INSTRUCTIONS
MERCURY FLOAT SWITCH LEVEL CONTROL

Installation:

Measure and mark the switch cord for level setting required. Remove protection cover, No. 009-00010, from floorplate. Remove compression nut and rubber grommet from cord grips mounted in floorplate. Remove shipping plug from rubber grommet. Remove floorplate manhole cover and insert the switch cord from the wet well, up through the cord grip until the marked setting appears. Slide the rubber grommet and nut on cord to mark and tighten assembly. Route cord to control panel. See Station wiring diagram for connecting terminals.

