



Instruction Sheet

302-001

2½", 3" & 1600 Series Pumps

SUPERSEDES: 302-001 Dated August 1, 1983

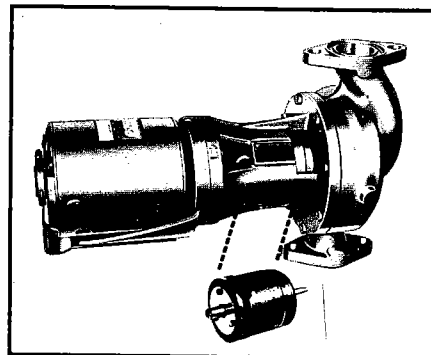
EFFECTIVE: August 1, 1991

Plant I.D. No. 001-972

APPLICATION

All pumps covered by this instruction sheet are designed for pumping water.

Working Pressure: 175 PSIG with cold water and
125 PSIG at rated temperature.
Temperature: 250°F Standard
300°F with Hi-Temp Seal



INSTALLATION:

Install horizontally only and with the two bracket ribs pointing to the ceiling. Do not support, suspend or brace motor and/or bracket. Support provided by casing is sufficient for structural integrity of the pump.

The casing can be rotated relative to the bracket for installation in vertical or horizontal pipe.

The pump must be installed far enough away from ceiling and walls to permit servicing of bracket and motor.

CAUTION: UNDER NO CIRCUMSTANCES SHOULD ANY PART OF BRACKET OR MOTOR BE COVERED WITH INSULATION.

OBSERVE ALL APPLICABLE ELECTRICAL AND MECHANICAL CODES.

START UP:

Before operating the pump for the first time check the following:

1. Is motor correctly wired for voltage in use?
Warranty is void if motor is damaged due to improper electrical hook-up.
2. If a magnetic starter is used, see that the heater element is sized for the Service Factor load of the motor; otherwise, nuisance trippouts may occur.
3. Motors are properly aligned with pump at the factory and normally require no attention. If due to rough handling, the motor base becomes bent, realign by shimming between cast iron and steel section of motor base.
4. Before starting motor, ascertain that pump is filled with water to lubricate the seal. Do not operate pump dry for motor checkout.

LUBRICATION:

Pump is equipped with permanently lubricated ball bearings. Lubricate motor per instruction label attached to motor.

COMPARE. YOU'LL TAKE TACO.

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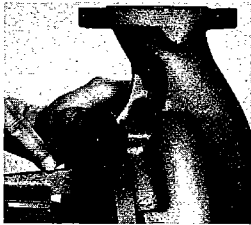


FIGURE 1

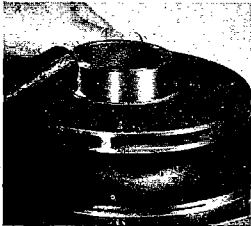


FIGURE 2

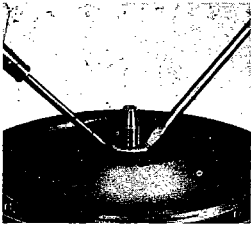


FIGURE 3

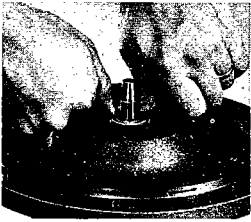


FIGURE 4

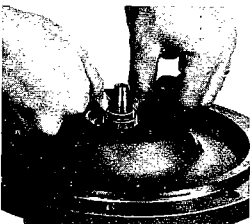


FIGURE 5



FIGURE 6

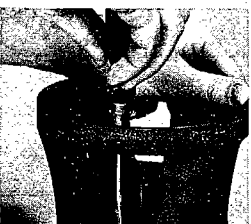


FIGURE 7

SEAL REPLACEMENT:

To replace the water seal, the following steps must be observed:

1. Disconnect electrical connections. Relieve system pressure and drain water from body.
2. Remove motor assembly from bracket and bracket from pump body.
3. Place bracket in vertical position, impeller up and loosen screw at center of impeller two turns. (7/16 Hex Head) This screw has a left-hand thread. Tap impeller at its outside diameter with handle of hammer to free tapered fit between shaft and impeller and completely remove screw, washer, and impeller. (see Figure 2)
4. Remove carbon and seat assemblies by prying them loose with a screwdriver. (see Figure 3)
5. Thoroughly clean shaft and seat cavity.
6. Insert new seal seat. For easy assembly coat OD of seal rubber (either a cup or an O-ring) with special grease provided in small container. Do not use any other oil or grease. Push seat all the way down into cavity. Seat must not be cocked relative to shaft. Be sure face of seal stays absolutely clean - wipe surface with soft, clean cloth if necessary. (see Figure 4)
7. Install new carbon assembly. Coat inside of rubber bellows with special grease provided (do not use any other oil or grease) and slide assembly (carbon first) over shaft until carbon meets seat. Push on rubber insert on very end of assembly and not on outside diameter of carbon retainer. Be sure carbon face stays absolutely clean. (see Figure 5)
8. Install spring and spring retainer with raised face inside spring. (see Figure 6)
9. Replace impeller using new impeller screw and washer provided. Make sure cones of both impeller and shaft are clean.
10. Reassemble bracket into pump casing. Use new gasket provided. Clean gasket surface of both casing and bracket if necessary. Be sure that the longer of the two outside bracket ribs is on top. (see Figure 1)
11. Reinstall coupler and motor.
12. Follow procedure outlined under section Start Up where required.

IMPELLER REPLACEMENT:

Follow steps 1 through 3 and 8 through 12 outlined under section Seal Replacement.

BEARING (CARTRIDGE) REPLACEMENT:

If for some reason the bracket bearings should fail, it is not necessary to replace the entire bracket.

A cartridge containing permanently lubricated ball bearings and shaft is available. To change the cartridge, follow this procedure:

- Follow steps 1 through 4 as outlined under section Seal Replacement.
- Flip bracket around so that motor end is on top.
- Remove the two outermost socket head screws. (see Figure 7)
- Pull out old cartridge. If necessary tap cone end of shaft with a hammer to accomplish this.
- Insert new cartridge and refasten with socket head screws. Make sure shaft sleeve is in place with cone on sleeve resting against cone of shaft.
- Follow steps 5 through 12 outlined under section Seal Replacement.

Note: It is recommended that when changing the cartridge the water seal be replaced also. However, if you plan to re-use the water seal it is not necessary to remove the seal seat. The carbon assembly may be lubricated with water to make reinstallation easy.