INSTRUCTION BULLETIN

Flomax® 30 - Self Priming Double Seal Pumps

Overview:

These instructions pertain to double seal Flomax 30 pump end installation and assembly. Your Flomax pump may have included a driver such as close-coupled electric motor, engine, bearing pedestal or hydraulic motor pedestal that will hereafter be referred to as the driver.

PUMPAK ASSEMBLY: (pump end suitable for mounting to various drivers).

1. Loosen the drive sleeve clamp.

2. Slide the pump onto the driver by hand. This should not require extreme force.

3. Install and tighten fasteners (4 screws) into the pump adaptor securing the driver.

4. Tighten the drive sleeve clamp nuts to 20 - 26 ft-lbs.

5. Remove the metal shim strap that spaces the impeller by pulling it out of the discharge.

6. Rotate the shaft to ensure that the pump rotates freely before putting the pump into service.

INSTALLATION:

Optimum performance can be attained by placing the pump as close to the liquid source as possible. Secure the pump by mounting it to a foundation or base plate.

Hose or pipe can be used on the suction and discharge. The suction line must not be reduced in size. If hose is used, reinforced non-collapsible type is recommended. The discharge line must be rated to the maximum pressure developed by the pump. Avoid kinks in the hose and unnecessary restrictions that may affect pump performance.

All pipe connections must be sealed with adequate thread sealant. A small air leak in the suction line will affect priming performance. If a throttling valve is used to adjust the flow rate, it should be mounted to the discharge piping only - never in the suction.

A large low restriction de-watering type strainer must be used whenever there are solids present in the liquid source.

OPERATION:

Fill the pump with liquid prior to starting through a fitting on the discharge piping. The pump housing should be completely full. If the pump has a discharge valve it must be fully open to expel air during priming at initial start-up. Long horizontal suction lines require extra time to prime, 2 additional minutes for every 10 feet of horizontal run.

Start the pump driver. The pump will prime the suction hose and establish flow in about 5 minutes, more or less, depending upon the lift distance and length of horizontal run. After prime, the pump will perform to its full flow capability.

After the initial prime, the pump will retain liquid in the housing and may not need to be refilled after shutdown and restart even if the suction pipe has air in it.

PERIODIC MAINTENANCE:

The double seal reservoir uses grease to lubricate and cool the shaft seals. The grease cavity should be greased with a polyurea based NLGI #1 (preferred grease). Other grease types may yield adequate performance. The grease maintenance interval is 6 months. Grease can be added by using a grease gun to fill until the relief valve opens and expels additional grease.

The relief valve may open up and expel additional grease during the first thermal cycle. This is normal where about ¼ ounce of grease may be relieved.

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REBUILD:

Use the exploded parts view with these instructions and note recommended replacement parts for the rebuild process.

1. Disconnect and removed the pump end from the driver.

2. Relieve the double seal cavity pressure by pulling the pin on the relief valve.

3. Remove and replace the flapper assembly and discharge gasket. Tighten the inlet and discharge flange fasteners to 24 ft-lbs.

4. Remove 6 nuts from the adaptor and disassemble the rotating assembly form the housing.

5. Inspect the wearplate for abrasive wear and replace if necessary using new screws, gaskets and acorn nuts.

6. Clean and remove all grease from the adaptors and impeller sleeve. Discard the seal rotating parts.

7. Remove the seal seats from the adaptors and discard.

8. FM5&8 impellers are threaded onto a drive sleeve and fastened with a jam nut. The sleeve of a FM10&15 is an integral part of the impeller.

9. Inspect the impeller for abrasive wear at the edges of the machined surfaces. If they are not well defined the impeller should be replaced.

10. Remove the grease reservoir from the adaptor.

REASSEMBLE:

1. Using a water-soluble lubricant, lubricate the seal seat o-rings and seal housing bores. Install new seal seats into the adaptors with the polished sides of the seat up. Install by hand using your thumbs to squarely locate the seats against the shoulder of the adaptors. Wipe the seal faces dry with a rag.

2. Place the impeller inside the pump housing.

3. Install the housing gasket over the housing studs and position it on the housing gasket face.

4. Slide the double seal adaptor over the impeller and studs with the relief valve properly aligned and the seal seat facing up. The adaptor should rest on the pump housing gasket squarely.

5. Using a water-soluble lubricant, lubricate the impeller sleeve and the seal rotary bellows inner diameters.

6. Install the seal rotary with the hard silicon carbide face so that the face is against the seal seat. Use care to push on the tail of the bellows and not on the seal head outer diameter.

7. Position the spring over the sleeve onto the seal head.

8. Install the remaining seal rotary (carbon face) tail first over the sleeve to make contact with the spring.

9. Place another housing gasket over the studs and install the driver adaptor onto the pump assembly to compress the seal spring. Tighten 6 nuts with lockwashers to 28 ft-lbs. with a crosswise pattern.

10. Slide the drive sleeve clamp assembly on the sleeve.

11. Pull the clamp assembly and sleeve back out of the pump and slide a shim inside the pump discharge between the wearplate and impeller vanes. Shim material thickness should be .02-.03 inches.

12. Fill the seal cavity with grease using a suitable grease gun until grease comes out of the pipe tee (approx. 9 ounces).

13. Install and tighten the reservoir

14. Add more grease to fill the reservoir until the relief valve opens.

The pump can now be installed to the driver as a pumpak.

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