

INSTRUCTION BULLETIN

MP CHEMFLO CENTRIFUGAL PUMPAK

MODEL: CHEMFLO 5, 6, 7, 8

READ THIS BULLETIN CAREFULLY BEFORE INSTALLING OR OPERATING THE PUMPAK

It is important that this instruction bulletin be read over carefully to fully familiarize yourself with the PUMPAK assembly arrangement. The instructions contained in this bulletin pertain to the installation and maintenance of the PUMPAK assembly only.

Check the PUMPAK over carefully to make certain that no parts are missing or broken in shipment. **CAUTION:** Do not disturb the assembly shim at the suction opening of the pump housing until AFTER the PUMPAK has been completely assembled to the driver.

Packed separately with each unit are instructions bulletin, parts list, and literature describing the PUMPAK.

CONSTRUCTION:

The PUMPAK consists of a stainless steel housing, seal housing motor adaptor, shaft sleeve, shaft seal, impeller nut, drive clamp, o-ring, and stainless steel fasteners.

The impeller is screwed onto the shaft sleeve. The impeller nut secures the impeller on the sleeve. The shaft sleeve is machined to precisely fit the shaft on your driver, No provision is made for an internal drive key and none is required. The drive clamp assembly takes the place of internal drive keys, securely locks the shaft sleeve to the driver shaft, and serves additionally as a liquid slinger to protect you motor.

The mechanical seal is the self-adjusting, greaseless type, being lubricated by the liquid in the pump. It requires no maintenance and provides long and trouble-free operation. Because the seal is lubricated by the liquid in the pump, **THE PUMP SHOULD NEVER BE OPERATED WITHOUT LIQUID IN THE HOUSING.**

In freezing weather, the pump should always be drained of liquid unless sufficient anti-freeze solution is in the system.

MOUNTING PUMPAK TO DRIVER:

ROTATION:

Check rotation of driver to be sure in coincides with the required rotation of the PUMPAK assembly. When viewed from the driver end PUMPAK rotation is Right Hand (**CLOCKWISE**).

Loosen the drive clamp fasteners but do not remove. **NOTE:** If driver shaft is a keyed shaft, remove the key before installing the MP PUMPAK. The drive clamp assembly on the MP PUMPAK is all that is required to drive the pump. Slide PUMPAK assembly onto the driver shaft, aligning capscrew holes in adaptor with the tapped holes in the driver mounting face, until adaptor contacts the mounting face.

Install fasteners and tighten to secure PUMPAK assembly to driver, First center, then tighten drive clamp assembly to lock shaft sleeve onto driver shaft.

After all fasteners are tight, including drive clamp assembly, remove the strip stock shim from the suction eye of the pump housing. This shim was inserted to establish clearance between the face of the impeller and pump housing. Rotate driver slowly by hand to make certain the impeller does not rub or hit the housing or adaptor.

If the impeller is rubbing, this means the shim was displaced during shipment or handling.



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ROTATION: (cont.)

To adjust impeller clearance, do this:

1. Loosen the impeller drive sleeve clamp.
2. Move impeller either forward or back by using a screwdriver to push impeller back – or move impeller drive sleeve forward.

Depending on the seal spring tension, you can do this by hand without removing the pump housing. Turn the driver to determine that you have adjusted the clearance so the impeller does not rub. Then tighten the impeller drive sleeve clamp.

IF THE SEAL SPRING TENSION PREVENTS THIS METHOD OF ADJUSTMENT, DO THIS:

1. Remove pump housing.
2. Loosen drive clamp, but do not remove.
3. Remove o-ring from housing.
4. Replace housing, pushing against impeller face. Secure housing with two fasteners, 180 degrees apart.
5. Securely tighten drive clamp.
6. Remove housing and install o-ring
7. Replace housing.

INSTALLATION:

The MP CHEMFLO centrifugal PUMPAKS should be installed with flooded suction or as near to the liquid source as possible.

If it is necessary to install the pump above the level of the liquid, a priming line should be connected directly to the suction line. A check valve must be used in conjunction with a priming line or the priming liquid will merely pass through the suction line to the liquid source. The priming of the suction line evacuates the air in the suction line and pump. This series of pumps will not handle air and therefore all air must be displaced from the suction line and pump before the pump can operate. Be sure that the pump housing is filled with liquid before starting the pump. **THE MECHANICAL SEAL IN THE PUMP MUST NOT BE OPERATED DRY.**

Pipe or hose of the same size (or larger) as inlet and outlet openings should be used on the installation. When using pipe, avoid sharp bends and use long radius elbows wherever possible. This will keep friction loss at a minimum and allow the pump to operate more effectively. Use pipe dope on all connections and be sure all fittings are airtight, especially on the suction side of the pump. An air leak on the suction side of the pump will prevent proper operation. A section of non-collapsible hose between piping and pump may be used as a vibration dampener.

TO DISASSEMBLE THE PUMP:

Drain the system of liquid, break suction and discharge pipe unions, and, if necessary, remove all piping from the suction and discharge openings. Remove the fasteners holding the pump adaptor to the driver, loosen the drive clamp assembly, and remove the **PUMPAK**.

To disassemble, remove the washers and hexnuts holding the motor adaptor to the housing. Remove the housing.

Loosen the drive clamp assembly. The impeller, drive sleeve, seal bellows, and the spring assembly will now slide forward free of the pump adaptor.

The seal seat and seat cup will remain in the pump adaptor. If not damaged or worn, do not remove. If necessary, remove from the adaptor counter bore with a piece of wood or a screwdriver handle inserted through the adaptor from the drive end. A sharp tap or two is usually sufficient to knock out the seal seat. Use caution in removing the seal seat so as not to crack a ceramic seat.

TO REMOVE IMPELLER:

Remove seal bellows and spring assembly. On some models, spring keeper can also be removed now before removing impeller.

NOTE: The seal bellows will be bonded to the shaft sleeve and will require some patience and caution in removal in order not to damage the seal bellow and cage.

Remove locknut from shaft; unscrew the impeller from the shaft sleeve counter-clockwise from the impeller end.

INSPECTION:

Check all parts for wear. For ease of reassembly shaft sleeve should have all nicks and burrs removed. Clean with light crocus cloth. Replace damaged parts with new parts.

Inspect the seal seat and washer, seat cup, and seal bellows for grooves, cuts, scuffmarks, or other deterioration. If any of the parts are damaged, a complete new assembly should be installed.

REASSEMBLY:

All dirt and foreign matter should be removed. If seal is to be reused, use soft clean cloth of wipe seal faces.

Lubricate seal seat cup with liquid soap or clean grease and press seal seat into adaptor counter bore, seating it firmly and squarely. Use caution so as not to mar the lapped face of the seal seat.

Assemble shaft sleeve; seal spring keeper, impeller and impeller nut. Before installing seal bellows and spring assembly, lubricate the shaft sleeve and rubber bellows with liquid soap or clean grease and press bellows and spring assembly onto the shaft sleeve. The spring should engage the spring keeper at the impeller end of the shaft sleeve.

To be properly positioned the washer must be firmly against the rubber bellows member and the driving lugs of the washer properly engaged. The raised shoulder on the seal washer should be facing away from the impeller to contact the lapped surface of the seal seat in the adaptor.

Slide impeller and seal assembly into the adaptor. Install drive clamp assembly on the shaft sleeve but do not tighten.

Proceed with mounting instructions shown under **(MOUNTING PUMPAK TO DRIVER)**.

DRIVER REPAIRS:

1. Remove piping, install strip stock impeller shim.
2. Remove four capscrews which fasten adaptor to driver.
3. Loosen drive clamp assembly.
4. Remove PUMPAK.

After driver repairs, reinstall PUMPAK according to instructions shown under **MOUNTING PUMPAK TO DRIVER**.