



ALWAYS wear protective clothing, face shield, safety glasses and gloves when working near or performing any maintenance or replacement on your pump. See MSDS Sheet from solution supplier for additional precautions.

**READ ALL STEPS BELOW BEFORE PROCEEDING.**

## Cartridge Valve Replacement

**1.** Depressurize discharge line. Be sure the Injection Check Valve is properly installed and is operating. If a shut-off valve has been installed downstream of the Injection Valve, it should be closed to off.



Be sure your relief tubing is connected to your 3-FV, 4-FV, or B4-FV and runs back to your solution drum or tank.

**2.** 1/4 turn the black knob on the Relief Valve counter-clockwise. The discharge line is now depressurized. Keep valve open until solution drains back down the discharge tubing into solution drum or tank.

**3.** Place the Foot Valve into a container of water or other neutralizing solution. Turn the pump on to flush the head assembly. Once the pump head has been flushed, lift the Foot Valve out of the solution and continue to pump air into the pump head until the pump head is purged of water or neutralizing solution.



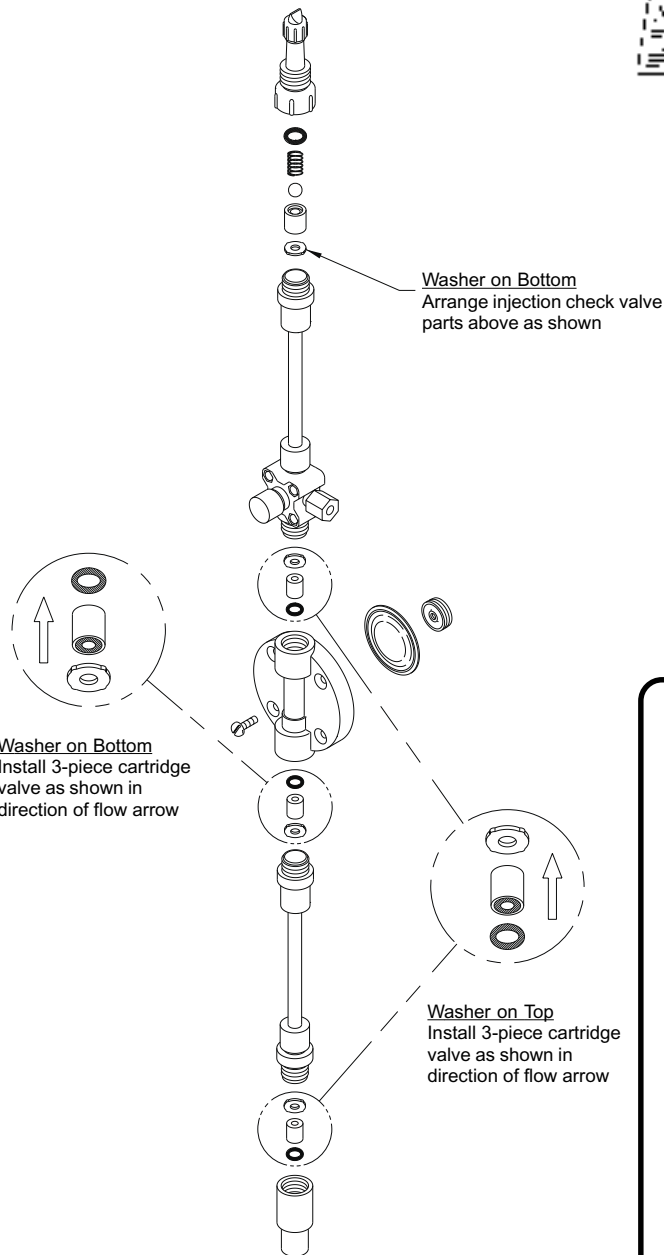
Depressurize and drain pipeline so that Injection Check Valve can safely be disassembled.

**4.** Carefully disconnect one tubing connection and fitting at a time, removing and replacing each cartridge valve.



*When replacing the Cartridge Valve, note the position of the O-Ring and Spacer Washer. Carefully loosen and replace Spacer Washer by using a small screwdriver (see figure 3).*

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**(figure 3)**



*Clamp Ring and Ferrules are included only for use with inch tubing connections if your liquid end is so equipped.*

*Discard these items if pipe thread connections or metric tubing type liquid ends are being used.*

**RPM  
PRO PAC™**



**Instruction Sheet**

**Repair and Preventive Maintenance Kit**

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MILTON ROY**

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# Instruction Sheet

## Installation Instructions

### Liquifram™ and Cartridge Valve Replacement

**CAUTION** ALWAYS wear protective clothing, face shield, safety glasses and gloves when working near or performing any maintenance or replacement on your pump. See MSDS Sheet from solution supplier for additional precautions.  
**READ ALL STEPS BELOW BEFORE PROCEEDING.**

#### Liquifram™ Replacement



When replacing the Liquifram™, check valves should also be replaced.

**1.** Depressurize discharge line. Be sure the Injection Check Valve is properly installed and is operating. If a shut-off valve has been installed downstream of the Injection Valve, it should be closed to off.



Be sure your relief tubing is connected to your 3-FV, 4-FV, or B4-FV and runs back to your solution drum or tank.

**2.** 1/4 turn the black knob on the Relief Valve counter-clockwise. The discharge line is now depressurized. Keep valve open until solution drains back down the discharge tubing into solution drum or tank.

**3.** Place the Foot Valve into a container of water or other neutralizing solution. Turn the pump on to flush the head assembly. Once the pump head has been flushed, lift the Foot Valve out of the solution and continue to pump air into the pump head until the pump head is purged of water or neutralizing solution.

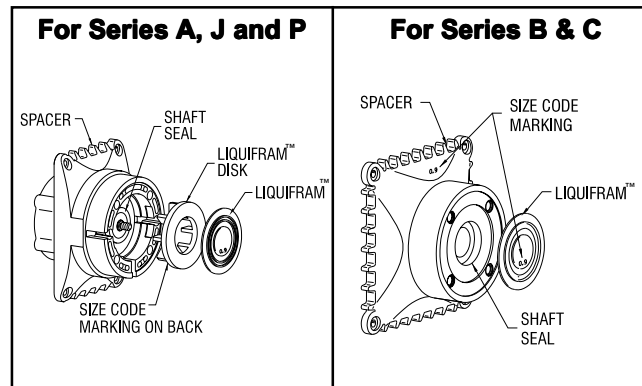


If the liquid cannot be pumped due to Liquifram™ rupture, wearing protective clothing, carefully disconnect the suction and discharge tubing.

**4.** Remove the pump head by unscrewing the four (4) heads screws.

**5.** Start the pump. While running, set the stroke knob to zero and turn the pump off (See pump Instruction Manual for proper zeroing).

**6.** With the unit off, unscrew the Liquifram™ by carefully grasping the outer edge and turning it counter-clockwise. Discard old Liquifram™. Remove the Liquifram™ disk (if so equipped) located behind the Liquifram™ and check that the size code matches the size code on the replacement Liquifram™ (see figure 1).



(figure 1)

**7.** Replace shaft seal if necessary.

**8.** Re-install the disk into the EPU (if so equipped).



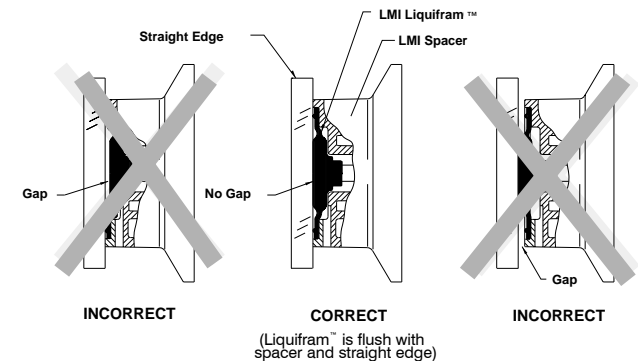
Take care not to scratch the surface of the new Liquifram™.

**9.** Install the new Liquifram™. Start the pump and turn the stroke knob to the setting indicated on the Stroke Setting Chart which matches the pump model number located on the pump dataplate. With the pump stroking (running), screw on the new Liquifram™ clockwise until the center begins to buckle inwards. Stop the pump.

**10.** Grasp the outer edge of the Liquifram™ and adjust by screwing it in or out so that the center of the Liquifram™ is flush with the outside of the spacer edge (see figure 2).

Liquifram™ Stroke Setting Chart	
Pump	Stroke Knob Setting
All A, B, J, P Series C10, C11, C12, C70, C71, C72, C76 C90, C91, C92 E70, E71, E72	90%
C78	50%
C13, C14, C73, C74, C77, C93, C94 E73, E74	70%
All M Series	100%. Liquifram™ must be bottomed completely. (Turned all the way) <b>Do Not Use Straight Edge.</b>

**11.** Once the Liquifram™ is properly positioned, remount the pump head to the spacer using the four (4) heads screws. Tighten in a criss-cross pattern. After one week of operation, recheck the screws and tighten if necessary.



(figure 2)