

FASTPRIME™ & AUTOPRIME™ Liquid End Installation Instructions

Series 700, 800, 900, A00, & D00

PRECAUTIONS

-  USE ONLY LMI® TUBING—ALWAYS use LMI® supplied tubing with your pump, as the fittings are specifically designed for use with the pump tubing.
-  If the pump is rated for more than 150 psi, you must use either LMI® 1/4" tubing (up to 250 psi) or pipe appropriate for your application.
-  DO NOT USE CLEAR VINYL TUBING ON THE DISCHARGE SIDE OF THE PUMP. The pressure created by the pump can rupture vinyl tubing, which is only for connection to the return line of the FASTPRIME™ fitting.
-  Before installation, all tubing must be cut with a clean square end.
-  Do not reuse the Ferrules - USE ONLY NEW FERRULES.
-  When connecting to rigid pipe, discard the Coupling Nut, Ferrules and O-ring. For optimal sealing, it is recommended to use 3 wraps of PTFE tape and PTFE thread sealant (rigid pipe connections only).
-  Valve and head connections from the factory are capped or plugged to retain pre-prime water. Remove and discard these caps or plugs before connecting tubing.
-  DO NOT USE PLIERS OR PIPE WRENCH ON COUPLING NUTS OR FITTINGS.

Note: Please consult your pump manual for additional precautions and instructions.

Replacement Kits of Coupling Nuts and Ferrules

Kit #	LMI® Tubing Size
77378	3 × 6 mm
77379	6 × 8 mm
77380	9 × 12 mm
77382	1/4"
77383	3/8"
77384	1/2"

Notes:

- Inch Ferrules are Yellow.
- Metric Ferrules are Black.
- One kit is needed for each tubing end.

Manual No.: 56134 Revision: 01

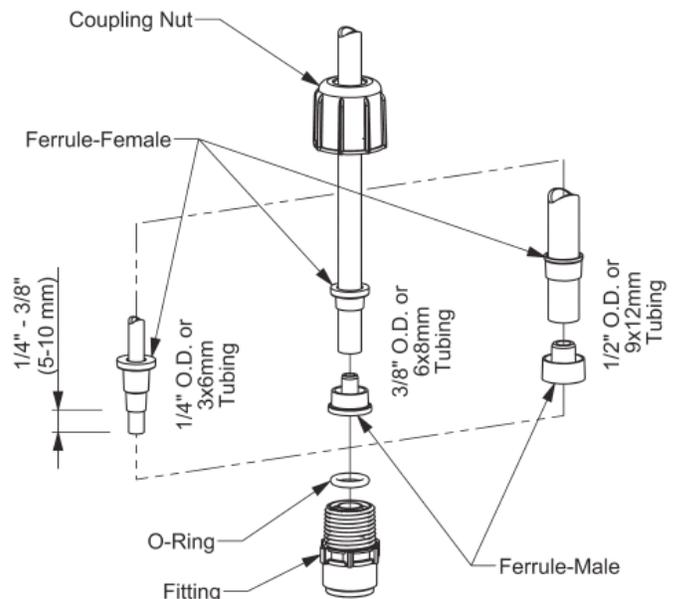
TUBING CONNECTION SYSTEM

VERY IMPORTANT - PLEASE READ

The LMI® Tubing Connection System provides a reliable system to connect your pump to corresponding tubing sizes. To assemble tubing onto the fitting:

1. Insert tubing through coupling nut—tubing should enter the smaller end of the coupling nut first, orienting the larger opening of the coupling nut toward the tubing end.
- 2a. For 1/4" OD tubing: Position the female ferrule so that 1/4" to 3/8" (5-10 mm) of tubing protrudes from the female ferrule. Orient the raised collar of the ferrule toward the coupling nut.
- 2b. For 3/8" or 1/2" OD tubing: Position a female ferrule about one inch (25 mm) from end of tubing. Orient the raised collar of the female ferrule toward the coupling nut. Then, insert the male ferrule onto the end of the tube, pushing the tube into the bottom of the groove in the male ferrule. Then slide the female ferrule down the tubing and with your fingers, press tightly into the male ferrule.
3. Firmly hand tighten the coupling nut onto the fitting.

Note: Tightening with pliers may cause the ferrules to break.

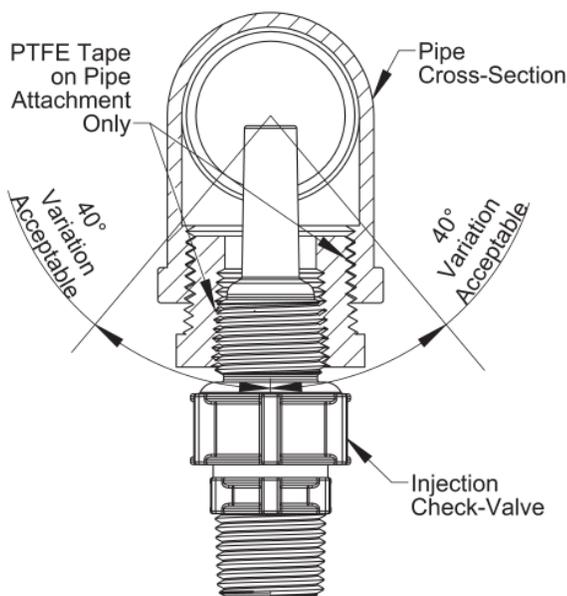


Note: 1/4" Tubing does not use Male Ferrules.

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INJECTION CHECK VALVE AND DISCHARGE TUBING INSTALLATION

1. The Injection Check Valve prevents back flow from a treated line. Connect the Injection Check Valve to your “DISCHARGE” (outlet) line. An NPTF fitting or pipe tee with a reducing bushing to 1/2” NPTF will accept the injection check valve. Use PTFE tape or pipe dope to seal the pipe threads only.
2. When installing the Injection Check Valve, be sure to position it so that the valve enters the bottom of your pipe in a vertical position. Variations left and right within 40° are acceptable (see illustration below).
3. After cutting an appropriate length of discharge tubing, connect tubing to the injection check valve then back to the discharge side of the pump head valve or discharge fitting. Make sure it does not crimp or come into contact with hot or sharp surfaces.
4. Position female ferrule about one inch (25 mm) from end of tubing.
5. For 1/4” or 6 mm OD tubing, cut tubing so that 1/4” to 3/8” (5-10 mm) protrudes from the female ferrule. For all other tubing push the tube to the bottom of the groove in the male ferrule. Then slide the female ferrule down into the male ferrule.



FOOT VALVE/SUCTION TUBING INSTALLATION

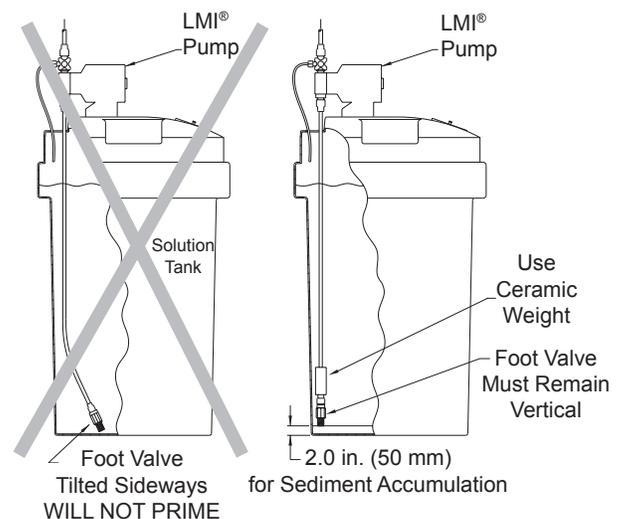
The Foot Valve acts as a check valve to keep the pump primed in suction lift applications.

The foot valve is designed to be submersed in the solution tank or drum and must sit in a vertical position near the bottom. Position approximately 2 inches (50 mm) off the bottom if the tank or drum contains sediment. The ceramic weight, when installed, positions the foot valve in a vertical position.

NOTE

Pump models equipped with high-viscosity liquid ends are not equipped with foot valves. Flooded suction is recommended. A 1/2” NPT connector is included for flooded suction installations.

1. Cut a piece of suction tubing to a length so that the foot valve hangs just above the bottom of the solution container. Maximum recommended vertical suction lift is 5 feet (1.5 m).
2. Attach the foot valve to one end of the suction tubing.
3. Slide the ceramic weight over the tubing end until it contacts the top of the foot valve coupling nut.
4. Place foot valve and tubing into the solution tank. Check that the foot valve is vertical and approximately 2 inches (50 mm) from the bottom of the tank or drum (see illustration). Connect the other end of the tubing to the suction side (bottom side) of the pump head.



LIQUIFRAM™ REMOVAL AND INSTALLATION

▲ 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 SHEETS FROM SOLUTION SUPPLIER FOR ADDITIONAL PRECAUTIONS.

LMI® metering pumps are designed for trouble-free operation, yet routine maintenance of elastomeric parts is essential for optimum performance. This involves replacing the LIQUIFRAM™ seal rings, valve balls, and the Injection Check Valve spring. LMI® recommends replacing these parts at least once a year, however, frequency will depend on your particular application.

When replacing the LIQUIFRAM™, the valve balls, seal rings and the injection check valve spring should also be replaced. A Routine Preventative Maintenance Kit (RPM-#) containing these parts may be obtained from your local distributor. (See the Liquid Handling Assembly Sheet for RPM Kit Part Number.)

INSTALLATION

1. Carefully depressurize, drain, and disconnect the discharge line (see pump Instruction Manual). 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. Turn the pump off. Remove the four screws to the head and immerse the head in water or other neutralizing solution.

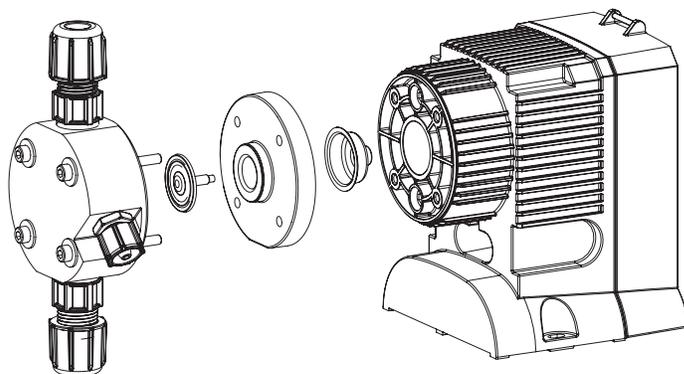
NOTE:

If the liquid cannot be pumped due to LIQUIFRAM™ rupture, using protective gloves, carefully disconnect the suction and discharge tubing. Remove the four screws to the head and immerse the head in water or other neutralizing solution.

2. Start the pump. While running, set the stroke knob to zero and turn the pump off.
3. With the unit off, unscrew the LIQUIFRAM™ by carefully grasping the outer edge and turning it counter-clockwise. Discard old LIQUIFRAM™. Remove the LIQUIFRAM™ adapter disk located behind the LIQUIFRAM™ and ensure that the diameter of the raised section is the same as the diameter of the replacement LIQUIFRAM™ (see figure A).
4. Replace the Adapter Disk so that the drain hole of the disk is oriented downward, and the mounting holes line up with the mounting holes of the pump.

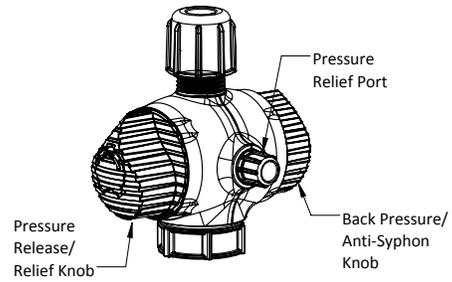
▲ CAUTION TAKE CARE NOT TO SCRATCH THE SURFACE OF THE NEW LIQUIFRAM™ .

5. Screw on the new LIQUIFRAM™ clockwise until turned all the way in. Start the pump and turn the stroke knob to 100%. Stop the pump.
6. Once the LIQUIFRAM™ is properly positioned, remount the pump head to the spacer using the four screws. Tighten in a crisscross pattern. After one week of operation, recheck the screws and tighten if necessary.

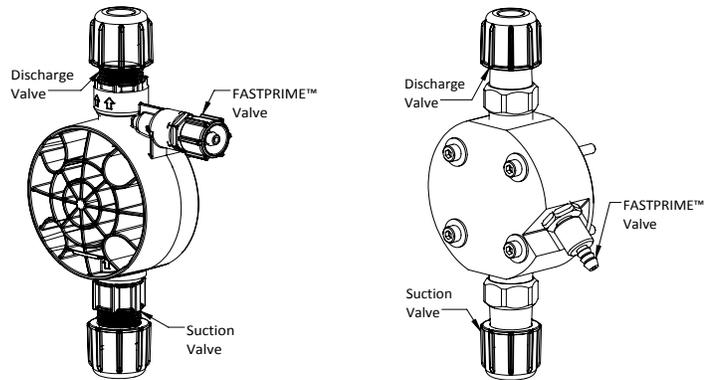


For more information on your specific liquid end configuration please view the relevant documentation at our support site:

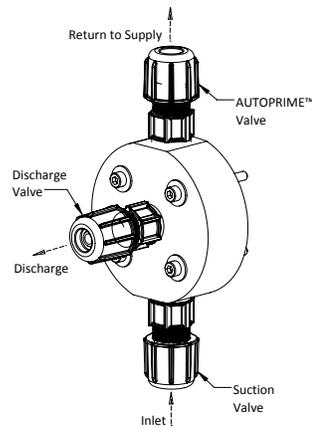
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