

LE 23

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## LIQUID HANDLING ASSEMBLY

### For Series C with 3.0 Liquifram

#### CAUTION

When pumping chemicals make certain that all tubing is securely attached to the fittings. It is recommended that tubing or pipe lines be shielded to prevent possible injury in case of rupture or accidental damage. Always wear protective clothing when working on or near chemical metering pump.

#### MATERIAL

Fittings	PVC
Seal Rings	Hypalon
Balls	Ceramic
Head	Plexiglas
Liquifram	Hypalon
Suction	½" OD Vinyl
Discharge	½" OD Polyethylene

#### A. INSTALLING INJECTION CHECK VALVE

1. The injection check valve should always be installed as close as possible to the point of chemical injection, at the very end of the tubing run.
2. Purpose of injection check valve is to prevent backflow from treated line.
3. A ½" NPT female fitting with sufficient depth will accept the injection check valve.
4. In order to insure correct seating of the ball inside the check valve, the injection check valve should be installed upwards.

#### B. CONNECTING DISCHARGE TUBING

Note: Cut tubing to length needed for discharge line.

1. Discharge tubing is relatively stiff translucent tubing.
2. Route tubing from injection check valve to chemical metering pump making sure it does not touch hot surfaces, sharp surfaces, or is bent so sharply that it kinks.
3. Slide small end of coupling nut onto tubing.
4. Push tubing over tapered nozzle of pump head so that tubing flares out and reaches the shoulder. (If tubing is stiff from cold, dip end in hot water).
5. Slide down the coupling nut until threads are engaged. Tighten by hand until tubing is held securely, in place.

*Excessive force will crack or distort fitting. DO NOT USE PIPE WRENCH.*

6. Follow the same procedure for connecting tubing to injection valve.

#### C. CONNECTING SUCTION TUBING

1. Suction tubing is soft transparent tubing.
2. Cut suction tubing to length necessary between suction valve of chemical metering pump and foot valve. Foot valve should just sit at the bottom of chemical container. Maximum recommended vertical suction lift is 5 ft. (1.5m).

3. Follow same procedure (see B) in connecting suction tubing to suction valve and foot valve.
4. If a suction tube straightener is desired, one may be fabricated from a 3 ft. (1m) piece of ¾" Schedule 80 PVC pipe.
5. Dip end of PVC pipe in hot water for at least 1 minute.
6. Push pipe over small end of coupling nut.

#### D. CONNECTING FLUSH VALVE TUBING

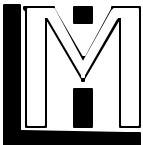
Note: Flush valve tubing is relatively stiff translucent tubing similar to discharge tubing.

1. Cut tubing to required length, and install one end to flush check valve at the side of the pump head.
2. Install a ½" NPT shut off valve on a fresh water line whose pressure is at least 5 psi (0.35 Kg/cm<sup>2</sup>) greater than pressure at point of chemical injection.
3. At the outlet of this shut off valve, screw in Part No. 10442 connector. Use Teflon tape on pipe threads. Install other end of flush valve tubing and hand tighten coupling nuts.

#### E. PRIMING

1. Open shut off valve on fresh water line to allow water to enter and fill pump head. If pump is equipped with automatic flush it would be necessary to push toggle switch on pump control panel towards "FLUSH" position to open solenoid valve. When pump head is filled with water, push toggle switch to "AUTO". Set "FLUSH SEC" to desired flush duration every five minutes.
2. Metering pumps without Automatic Flush feature should now be started and allowed to operate normally. Close shut off valve on fresh water line as soon as pump is primed.

*To prevent syphoning, injection check valve must be located where there is positive pressure or elevation higher than solution level.*



# LIQUID METRONICS INCORPORATED

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# LE 23

Key No.	Part No.	Description	Quantity
1	10151	Injection Check Valve Assembly	1
2	10108	Injector Fitting, Plexiglas	1
3	10109	Flapper, brown Hytrel	1
4	10138*	Ball, Ceramic	5
6	10128*	Seal Ring, Hypalon, green dot	4
7	10106	Valve Seat, Plexiglas	3
8	10111	Coupling Nut, Plexiglas	5
9	10142	Tubing Polyethylene	20 ft. (6m)
10	10569-1	Head Assembly, LE 23	1
11	10561	Discharge Valve Assembly, LE 20	1
12	10164	Valve Housing, Plexiglas	1
13	10562	Suction Valve Assembly, LE 20, 21	2
14	10340	Screw, 10-24 x 3/4" S.S.	4
15	10524-1	Head, 3.0 SI Plexiglas	1
16	25119*	Liquifram, 3.0 SI, Hypalon**	1
17	10322	Weight, Ceramic	1
18	10253	Foot Valve Assembly	1
19	10122	Fitting	1
20	10310	Foot Valve Seat, green Tefzel	1
21	10123	Strainer, white Polypropylene	1
22	10141	Tubing, Vinyl	6 ft. (1.8m)
23	10442	Connector 1/2" NPT Male	1
24	10211	Coupling Nut, gray PVC	1
25	10895	Connector Assembly	1

\*Parts included in Spare Parts Kit No. SP-23.

\*\*For pumps with serial numbers prior to 901001 use Liquifram part number 10119.

Note: Remove strainer when pumping slurries.

