

# LE 91L

## LIQUID HANDLING ASSEMBLY

### For Series A & B with 0.9 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.

#### MATERIALS

Fittings	PVC/Polypropylene
Seal Rings	<b>Polyprel™</b>
Balls	Ceramic
Head	Acrylic
Liquifram	Teflon
Suction	.375" OD Vinyl
Discharge	.375" 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/back pressure valve is to prevent backflow from *treated line* and to prevent syphoning or overpumping of chemical.
3. A ½" NPT female fitting with sufficient depth will accept the injection check/back pressure valve.
4. In order to insure correct seating of the ball inside the check valve, the injection check/back pressure valve should be installed upwards.

#### B. CONNECTING DISCHARGE TUBING

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. Slide slip ring onto tubing.
5. Push tubing over tapered nozzle of discharge valve housing so that tubing flares out and reaches the shoulder. (If tubing is stiff from cold, dip end in hot water).
6. 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 fittings. 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 a length such that the foot valve hangs just above the bottom of the 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 ½" Schedule SDR 13.5 (thin wall type) 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. PRIMING

1. Temporarily remove tubing from injection check/back pressure valve and hold the end of tubing so it is above pump level.
2. Set pump at maximum speed and 100% stroke and start pump.
3. As soon as chemical is visible through translucent discharge tubing just past the discharge valve, stop the pump.
4. Pump is now primed.
5. Reconnect tubing to injection check/back pressure valve.

#### Note:

- (a) Pump is normally self-priming if suction lift is no more than 5 ft. (1.5m), valves in the pump are wet with water (Pump is shipped from factory with water in pump head and therefore valves are wet) and the above steps (D1 thru D3) are followed.
- (b) If the pump does not self prime, remove discharge valve housing and ball and pour water or chemical slowly into discharge port until it is filled. Follow steps D2 thru D5 thereafter.

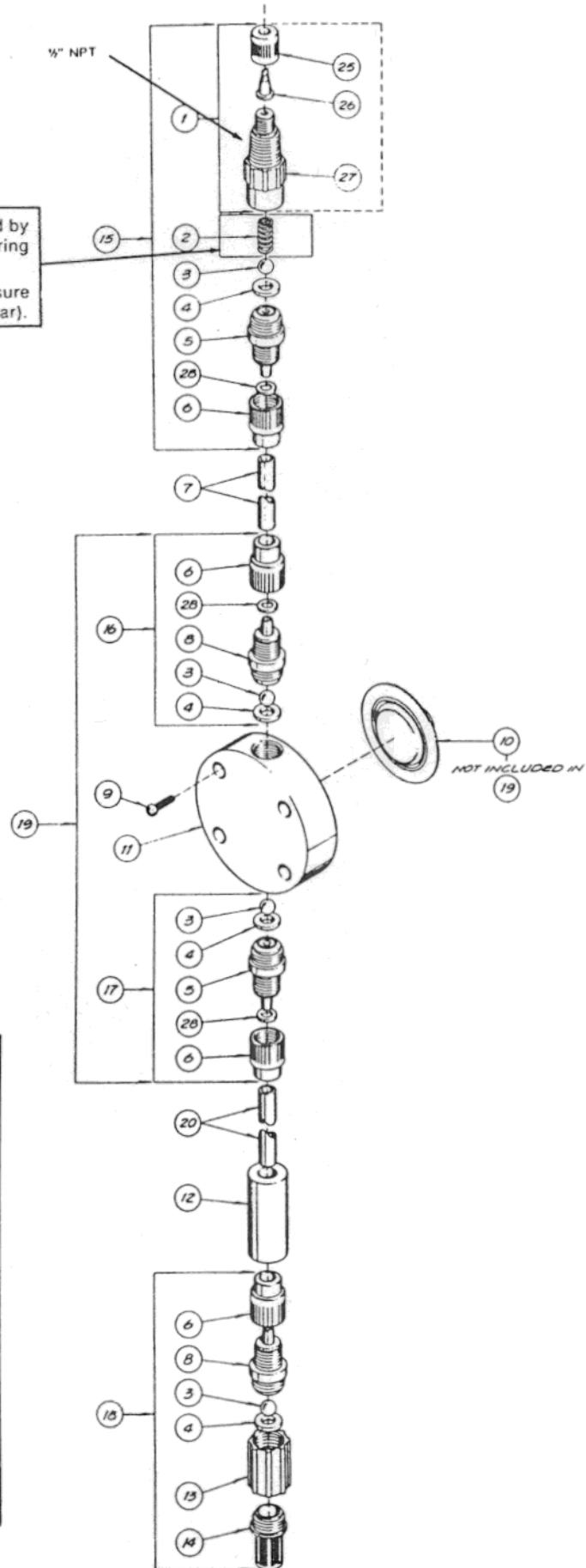


## LIQUID METRONICS INCORPORATED

19 CRAIG ROAD • ACTON, MA. 01720, U.S.A. • 617-263-9800 • TELEX 95-1781

**NOTE:**  
Threaded connections into pump head are 1/4"-16 straight threads. Do not use Teflon tape. These joints are sealed by seal ring valve seats (Item 4 on exploded view).

1. Maximum pump pressure rating is reduced by 25 psi (1.7 bar) with anti-syphon spring installed.
2. Do not remove anti-syphon spring if pressure at injection point is less than 20 psi (1.4 bar).



**LE 91L**

Ref. No.	Part No.	Description	Quantity
1	10296	Injector Fitting w/Hypalon Flapper	1
2	10339	Spring, Teflon PFA coated	1
3	10338	Ball, Ceramic	4
4	27607	Seal Ring	4
5	10292	Valve Seat, PVC or Polypropylene	2
6	10299	Coupling, gray PVC	4
7	10342-10	Tubing, Polyethylene, .375" OD	1
8	10293	Valve Housing, PVC or Polypropylene	2
9	10340	Screw, 10-24 x 3/4 S.S.	4
10	10302	Liquifram, 0.9 Si Teflon Face	1
11	10113	Head, Acrylic, machined	1
12	10322	Weight, Ceramic	1
13	10978	Foot Valve Seat, black Polypropylene	1
14	10123	Strainer, white Polypropylene	1
15	27600	Injection Check/Back Pressure Valve	1
16	27601	Discharge Valve Assembly	1
17	27602	Suction Valve Assembly	1
18	27603	Foot Valve Assembly	1
19	27604	Head Assembly, LE 91T	1
20	10469-06	Tubing, Vinyl, .375" OD,	1
25	25449	Flapper Nut, PVC or Polypropylene	1
26	10226	Flapper, Hypalon, green dot	1
27	10294	Injector Fitting, PVC or Polypropylene	1
28	26136	Clamp Ring	3