

# RF 22

## LIQUID HANDLING ASSEMBLIES

with 0.9 Liquifram™

### Instructions for LE RF 22

#### 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	GFR Polypropylene
Seal Rings	Polyprel™
Balls	Ceramic
Head	GFR Polypropylene
Liquifram	Teflon®
Suction	.375" OD Vinyl
Discharge	.375" OD Vinyl

#### 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

Note: Cut tubing to length needed for discharge line.

1. 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.
2. Slide small end of coupling nut onto tubing.
3. Slide clamp ring onto tubing.
4. 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.)
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 fittings. DO NOT USE PIPE WRENCH.*

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

#### C. CONNECTING SUCTION TUBING

1. 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).
2. Follow same procedure (see B) in connecting suction tubing to suction valve and foot valve.
3. 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.
4. Dip end of PVC pipe in hot water for at least 1 minute.
5. 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 80% 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 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

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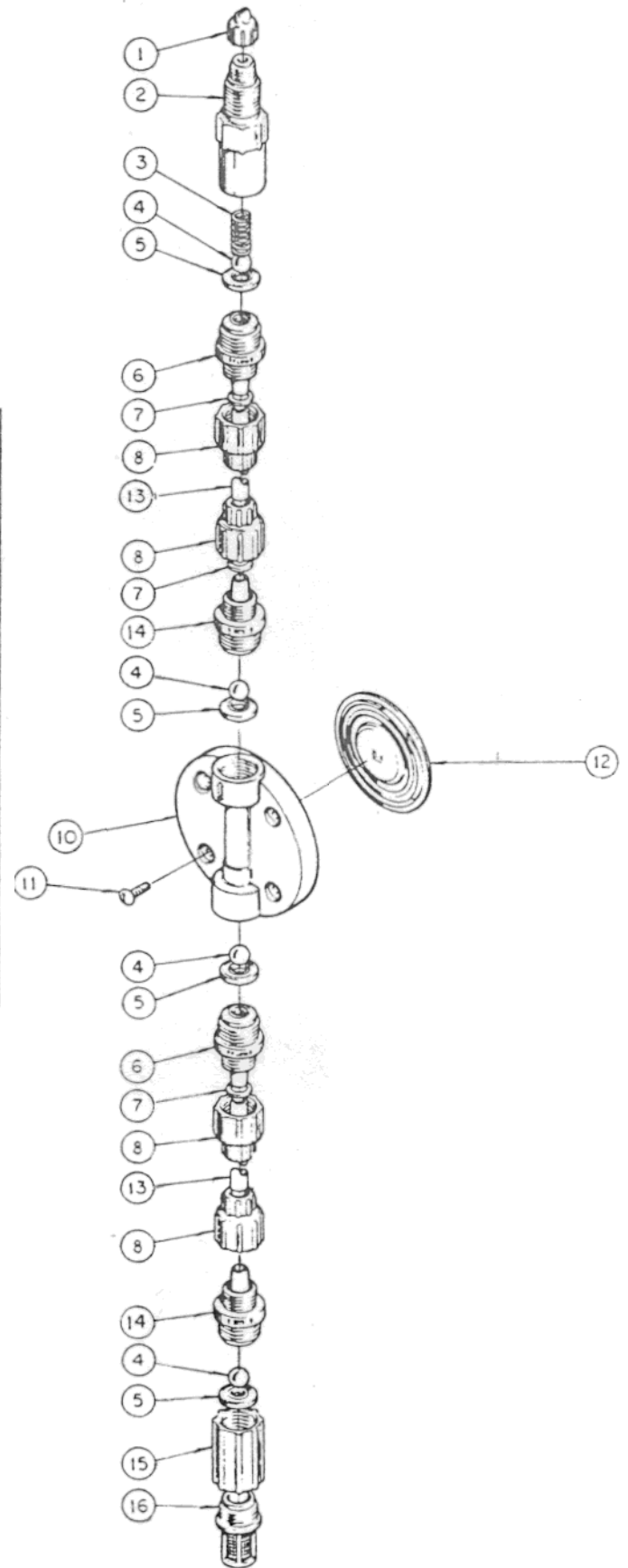
**NOTE:**

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 5 on exploded view).

1. Maximum pump pressure rating is reduced by 25 psi (1.7 bar) with back pressure spring (Item 3 on exploded view) installed.
2. Do not remove back pressure spring if pressure at injection point is less than 20 psi (1.4 bar).

## LE RF 22

Ref. No.	Part No.	Description	Quantity
1	27352	Flapper Valve	1
2	10394	Injector Fitting, GFR polypropylene	1
3	10338	Spring	1
4	10338	Ball, ceramic	4
5	29443	Seal Ring, Polyprel™	4
6	10392	Valve Seat, GFR Polypropylene	2
7	26136	Clamp Ring	3
8	10299	Coupling Nut	4
10	29610	Head, 0.9SI, GFR polypropylene	1
11	10340	Screw, 10-24 x 3/4" S.S.	4
12	10302	Liquifram,™ 0.9SI	1
13	10469-06	Tubing, .375" OD vinyl	2
14	10393	Valve Housing, GFR polypropylene	2
15	10978	Foot Valve Seat	1
16	10123	Strainer, polypropylene	1
	10322	Weight, ceramic (not shown)**	1



\*\*PN 10322 Ceramic Weight keeps Foot Valve Asm. at tank bottom. Install weight over suction tubing.