

# LE-77 LE-97 LE-157 LIQUID HANDLING ASSEMBLIES

## 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	316 S.S.
Seal Rings	Teflon
Balls	316 S.S.
Head	316 S.S.
Liquifram	Teflon
Suction	1/4" NPT F
Discharge	1/4" NPT F

### A. INSTALLING INJECTION CHECK VALVE

(Optional—Not included with standard pump.)

1. The injection check valve should always be installed as close as possible to the point of chemical injection, at the end of the piping run.
2. Purpose of injection/anti-syphon valve is to prevent backflow from *treated line* and to prevent syphoning or overpumping of chemical.
3. A 1/2" NPT female fitting with sufficient depth will accept the injection/anti-syphon valve.

### B. CONNECTING DISCHARGE PIPE

*NOTE: Type 316 stainless steel or other corrosion resistant 1/4" schedule 80 pipe should be used. DO NOT USE 1/8" PIPE.*

1. Discharge valve has 1/4" NPT female outlet. A short 1/4" pipe nipple and a 1/4" union should be connected to both discharge and suction valves so that chemical metering pump may be removed without disturbing piping.

*It is recommended that Teflon tape be used on tapered pipe threads so that there is a leakproof seal without over-tightening of fittings.*

### C. CONNECTING SUCTION PIPE

1. Use the same size and material pipe as used on discharge line. Cut suction pipe to required length.
2. Use of Teflon tape on tapered pipe threads is recommended to be sure connections are leakproof. Suction side leaks are not visible, but if a leak is present, the pump will suck in air during each suction stroke.
3. Maximum recommended suction lift is 5 ft. (1.5m).

### D. PRIMING

1. Temporarily disconnect the union on top of discharge valve.
2. Set pump at near maximum (80%) speed and 100% stroke and start pump.
3. As soon as chemical begins to leak at the union on top of the discharge valve, stop the pump.
4. Pump is now primed.
5. Tighten union on top of discharge valve.

## LIQUID METRONICS INCORPORATED

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Threaded connections into pump head are 3/4"-16 straight threads.  
**Do not use Teflon tape.** These joints are sealed by seal ring valve seats (item 5 on exploded view).

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

KEY NO.	FOR LE-	PART NO.	DESCRIPTION	QTY.
1	77	10638	Head Assembly	1
1	97	10637	Head Assembly	1
1	157	28413	Head Assembly	1
2	77,97,157	10635	Discharge Valve Asm	1
3	77,97,157	10491	Valve Housing, 316 SS 1/4" NPT	1
4	77,97,157	10659	Ball, 316 SS	2 (4)
5	77,97,157	10407	Seal Ring, Teflon	2 (4)
6	77	10604	Head, SS 1.8 S.I.	1
6	97	10613	Head, SS 0.9 S.I.	1
6	157	28389	Head, SS 0.5 S.I.	1
7	77,97,157	10340	Screw, 10-24 x 3/4" PH SS1	4
8	77	10305	Liquifram 1.8 S.I., Teflon	1
8	97	10302	Liquifram, 0.9 S.I., Teflon	1
8	157	26042	Liquifram, 0.5 S.I., Teflon	1
9	77,97,157	10636	Suction Valve Assembly	1
10	77,97,157	10490	Valve Seat, 316SS, 1/4" NPT	1 (2)
11	77,97,157	10634	Inj/Back Pressure Valve Assembly*	(1)
12	77,97,157	10494	Injector Fitting*	(1)
13	77,97,157	10339	Spring, Teflon PFA coated	(1)
14	77,97,157	25880	Valve Housing, Foot*	(1)
15	77,97,157	26881	Valve Seat, Foot*	(1)
16	77,97,157	26227	Foot Valve Assembly*	(1)

\* Optional extra

( ) Quantities with Optional part no.'s 10634 & 26227

### SPARE PARTS KITS

For LE-77, order SP-77 which includes:

4 ea. 10659 Ball, SS  
 4 ea. 10407 Seal Ring, Teflon  
 1 ea. 10305 Liquifram

For LE-97, order SP-77 which includes:

4 ea. 10659 Ball  
 4 ea. 10407 Seal Ring  
 1 ea. 10302 Liquifram

For LE-157, order SP-157 which includes:

4 ea. 10659 Ball  
 4 ea. 10407 Seal Ring  
 1 ea. 26042 Liquifram

Printed in USA  
 Specifications subject to change without notice.

