

## LE-161 LE-162 LE-168 LIQUID HANDLING ASSEMBLIES

### CAUTION

When pumping solutions 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 solution metering pump.

#### A. INSTALLING INJECTION CHECK VALVE

1. The purpose of the injection check valve is to prevent backflow from the treated line and to prevent syphoning or overpumping of solution.
2. A 1/2" NPT female fitting with sufficient depth will accept the injection check valve.
3. To insure correct seating of the ball inside the injection valve, the valve should be installed upwards.

#### B. CONNECTING DISCHARGE TUBING

*NOTE: Cut tubing to length needed for discharge line, making sure sufficient amount is left for suction line.*

1. Route tubing from injection valve to solution metering pump, making sure it does not touch 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 so that tubing flares out and reaches the shoulder. (if tubing is stiff from cold, dip end in hot water.)
5. Slide the coupling nut down 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.*

5. Follow the same procedure for connecting tubing to the 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 solution container. Maximum recommended suction lift is 5 feet (1.5m).
2. Follow procedure B to connect suction tubing to suction valve and foot valve.

#### D. PRIMING

1. Temporarily remove tubing from injection valve and hold the end of the tubing so that it is above the level of the pump.
2. Set pump at 80% speed and 100% stroke and start the pump.
3. As soon as solution is visible through discharge tubing, just past the discharge valve, stop the pump.
4. Pump is now primed.
5. Reconnect tubing to injection valve.

*NOTE:*

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



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KEY NO.	PART NO.	DESCRIPTION	QUANTITY		
			LE-161	LE-162	LE-168
1	27352	Flapper Valve	1	1	1
2	10394	Injector Fitting, Polypropylene	1	0	0
	26841	Injector Fitting, PVDF	0	1	0
	10294	Injector Fitting, PVC	0	0	1
3	10339*	Spring, PVDF	1	1	1
4	10338*	Ball, Ceramic	4	4	4
5	29443*	Seal Ring, Polyprel	4	4	4
6	10392	Valve Seat, GFR Polypropylene	2	0	0
	26839	Valve Seat, PVDF	0	2	0
	10292	Valve Seat, PVC	0	0	2
7	26136	Ring, Clamp	3	3	3
8	10299	Coupling Nut	4	4	4
9	10342-10	Tubing, .375" OD PE	1	0	0
	10342-16	Tubing, .375" OD Polyethylene	0	1	1
10	27212	Head, 1.8 SI GFR Polypropylene	1	0	0
	27214	Head, 1.8 SI PVDF	0	1	0
	30914	Head, 1.8 SI PVC	0	0	1
11	10340	Screw, 10-24 x 3/4" SS	4	4	4
12	31420*	Liquifram, 1.8 SI TFE Co-Polymer	1	1	1
13	10469-06	Tubing, .375" OD Vinyl	1	0	0
14	10393	Valve Housing, GFR Polypropylene	2	0	0
	26840	Valve Housing, PVDF	0	2	0
	10293	Valve Housing, PVC	0	0	2
15	10978	Foot Valve Seat	1	1	1
16	10123	Strainer, Polypropylene	1	1	1
17	28013	Injection Valve Asm	1	0	0
	28025	Injection Valve Asm	0	1	0
	32088	Injection Valve Asm	0	0	1
18	28017	Discharge Valve Asm, PP	1	0	0
	28029	Discharge Valve Asm, PVDF	0	1	0
	27601	Discharge Valve Asm, PVC	0	0	1
19	28016	Suction Valve Asm, PP	1	0	0
	28028	Suction Valve Asm, PVDF	0	1	0
	27602	Suction Valve Asm, PVC	0	0	1
20	28014	Foot Valve Asm	1	0	0
	28026	Foot Valve Asm	0	1	0
	27603	Foot Valve Asm	0	0	1
21	31987	Head Asm, LE-161, PP	1	0	0
	31988	Head Asm, LE-162, PVDF	0	1	0
	31214	Head Asm, LE-168, PVC	0	0	1
	32293	Suction Tubing Straightener (not shown)	1	1	1

\* Parts included in Spare Parts Kit SP-U10

**NOTE:** 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 4 on drawing.)

