

LE-199 LE-199U 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.

A. INSTALLING INJECTION CHECK VALVE

1. The injection check valve should always be installed as close as possible to the point of solution injection.
2. Purpose of injection check valve is to prevent back-flow from treated line.
3. A 1/2" NPT female fitting with sufficient depth will accept the injection check valve.
4. To insure correct seating of the ball inside the check valve, the injection check valve must be installed vertically upwards.

B. CONNECTING DISCHARGE TUBING

NOTE: Cut tubing to length needed for discharge line.

1. Route tubing from injection check valve to solution 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 the long, straight end of the ferrule onto tubing such that tubing exits at the cone shaped end of the ferrule.
4. Insert tubing into discharge valve housing so that tubing butts up against valve housing and will not go any further.
5. Slide ferrule down so that cone shaped end fits snugly into discharge valve housing.
6. Slide down the coupling nut until threads are engaged. Tighten coupling nut by hand, maintaining pressure on tubing towards valve housing until tubing is held securely in place.

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

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

C. CONNECTING SUCTION TUBING

1. Cut suction tubing to a length that the foot valve hangs just above the bottom of the solution 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.

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 chemical 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 1.5 meters, 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 chemical slowly through the discharge port until it is filled. Follow steps D2 through D5.



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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 5 on exploded view).

KEY NO.	PART NO.	DESCRIPTION	QUANTITY	
			LE-199	LE-199U
1	27352	Flapper Valve	1	1
2	10294	Injector Fitting, PVC	1	1
3	10339*	Spring, PVDF	1	1
4	10338*	Ball, Ceramic, .375	4	4
5	29443*	Seal Ring, Polyprel	4	4
6	30383	Valve Seat, PVC	2	2
8	10299	Coupling Nut	4	4
9	25636-16	Tubing, .250" OD Polyethylene	1	0
	28636-16	Tubing, .250" OD Black Polyethylene	0	1
10	30913	Head, 0.9 SI PVC	1	1
11	10340	Screw, 10-24 x 3/4" SS	4	4
12	30917*	Liquifram, 0.9 SI TFE CoPolymer	1	1
14	30375	Valve Housing, PVC	2	2
15	10978	Foot Valve Seat	1	1
16	10123	Strainer, Polypropylene	1	1
17	30919	Inj. Check/Back Pressure Valve Asm	1	1
18	30923	Discharge Valve Asm	1	1
19	30924	Suction Valve Asm	1	1
20	30921	Foot Valve Asm	1	1
21	32668	Head Asm, LE-199	1	1
30	28663	Ferrule	4	4
	32293	Suction Tubing Straightener (not shown)	1	1

* Parts included in Spare Parts Kit SP-U7

