

# Liquid End Sheet

## LE-91F

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 and face shield when working on or near your metering pump.

**Note: See parts list for materials of construction**

### A. INSTALLING INJECTION CHECK VALVE

1. The purpose of the injection check valve is to prevent backflow from the treated line.
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 check valve, the injection check valve should be installed upwards (vertically).

### B. CONNECTING DISCHARGE TUBING

**Note:** Cut tubing to length needed for discharge line.

1. Route tubing from the injection check valve to the metering pump, making sure it does not touch hot or sharp surfaces, or is bent so sharply that it kinks.
2. Slide small end of the coupling nut onto tubing, then slide the clamp ring onto tubing.
3. Insert tubing over the discharge valve housing nozzle so that tubing butts up against the valve housing and will not go any further.
4. While pushing tubing into valve housing, slide the coupling nut down to the threads and engage. Tighten coupling nut 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 injection valve.

### C. CONNECTING SUCTION TUBING

1. Cut suction tubing to a length so that the foot valve hangs just above the bottom of the solution container. Maximum recommended vertical suction lift is 5 ft (1.5 m).
2. Follow same procedure in connecting suction tubing to suction valve and foot valve (**B. Connecting Discharge Tubing**).

### D. PRIMING

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

**Note:**

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



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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 6 on exploded view).

KEY NO.	PART NO.	DESCRIPTION	QUANTITY
2	29339*	Spring, PE Coated	1
3	10444*	Ball, Teflon .375"	4
4	10107*	Seal Ring, Hypalon	4
5	10292	Valve Seat, PVC	2
6	10299	Coupling Nut, PP	4
7	10342 -1	Tubing, Polyethylene, .375" OD	1
8	10293	Valve Housing, PVC	2
9	10113	Head, Acrylic, 0.9 SI	1
10	30917*	Liquifram, 0.9 SI, Fluorofilm	1
11	10340	Screw, 10-24 x 3/4" S.S.	4
13	10978	Foot Valve Seat, Polypropylene	1
14	10123	Strainer, Polypropylene	1
15	30846	Injection Check Valve	1
16	25176	Discharge Valve Assembly	1
17	25177	Suction Valve Assembly	1
18	30847	Foot Valve Assembly	1
19	25175	Head Assembly, LE-91F 0.9 SI	1
20	10469-06	Tubing, Vinyl .375" OD	1
28	27352	Flapper Valve	1
27	10294	Injector Fitting, PVC	1
29	26136	Clamp Ring, S.S.	2
---	32293	Suction Tubing Straightener (not shown)	1

\* Parts included in Spare Parts Kit No. SP-U3

