

# Liquid End Sheet

## LE-29

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 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 valve is to prevent backflow from treated line.
3. A ½" 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 should be installed upwards.

### B. CONNECTING DISCHARGE TUBING

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

1. Discharge tubing is relatively stiff translucent tubing.
2. 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.
3. Slide small end of coupling nut onto tubing, then slide on the clamp ring.
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 clamp ring and 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. Suction tubing is soft transparent tubing.
2. 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 (1.5 m).
3. Follow same procedure in connecting suction tubing to suction valve and foot valve (see **B. Connecting Discharge Tubing**).

### D. CONNECTING FLUSH VALVE TUBING

**NOTE:** Flush valve tubing is the smaller diameter relatively stiff translucent tubing.

1. Install one end of tubing (Part No. 10342) to the elbow fitting on the foot valve by pushing it into the elbow fitting. Slide white coupling nut onto tubing and tighten it by hand onto elbow fitting.
2. Route tubing beside suction tubing and tie together using the yellow plastic wire tie (Part No. 10156) around the midpoint of the suction tubing run.
3. If pump is equipped with automatic flushing solenoid valve, cut flush tubing to suit length so end of tubing is at solenoid valve outlet. Connect tubing to solenoid valve outlet using the plastic male connector on the solenoid valve.
4. Install a ¼" NPT shut off valve on a fresh water line whose pressure is at least 5 psi (0.35 Bar) greater than pressure at point of chemical injection.
5. At the outlet of this shut off valve screw in (Part No. 10482) connector and connect balance of flush valve tubing between this connector and inlet of solenoid valve. If pump does not have automatic flushing solenoid valve, flush valve tubing should be connected directly between the ¼" NPT valve and elbow connector of the foot valve.

### E. PRIMING

1. Open shut off valve on fresh water line to allow water to enter and fill pump head. If pump is equipped with automatic flush it would be necessary to push toggle switch on pump control panel towards "FLUSH" position to open solenoid valve. When pump head is filled with water, push toggle switch to "AUTO". Set "FLUSH SEC" to desired flush duration every five minutes.
2. Metering pumps without Automatic Flush feature should now be started and allowed to operate normally. Close shut off valve on fresh water line as soon as pump is primed.

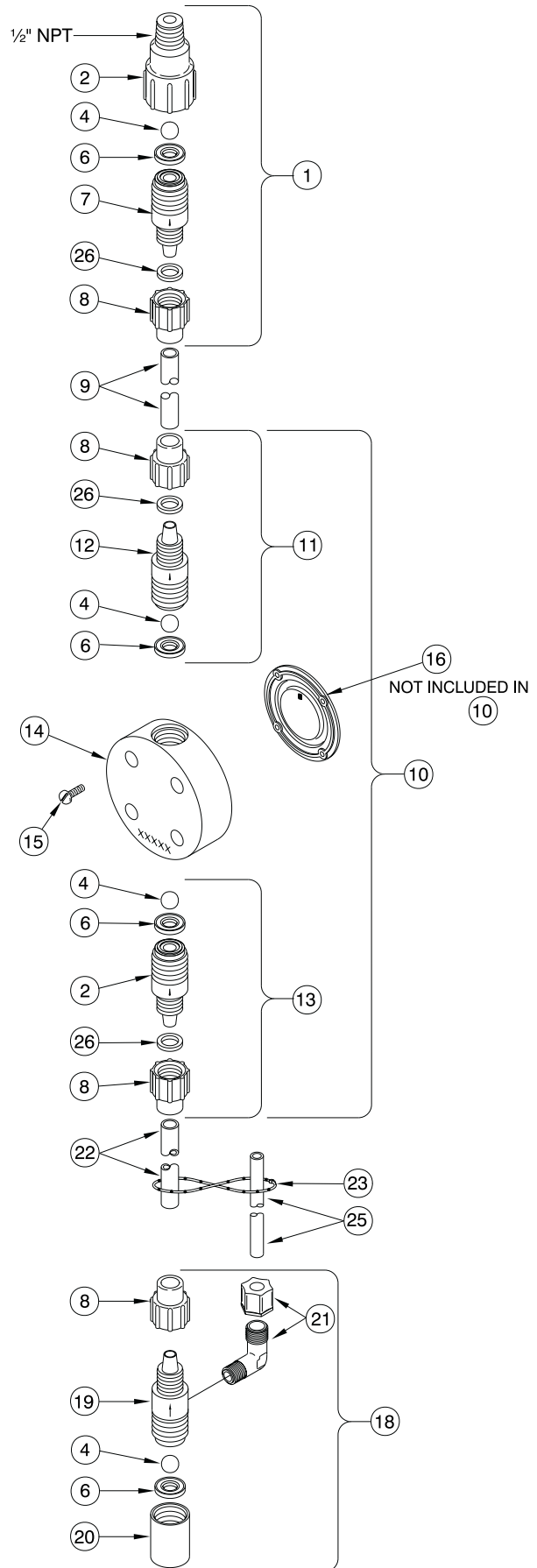
**NOTE:**

*To prevent syphoning, injection check valve must be located where there is positive pressure or elevation higher than solution level.*



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Key No.	Part No.	Description	Qty
1	10151	Injection Check Valve Assembly	1
2	25108	Injector Fitting, PVC	1
4	10138*	Ball, Ceramic	4
6	10128*	Seal Ring, Hypalon®	4
7	10206	Valve Seat, PVC	2
8	10411	Coupling Nut, PVC	4
9	10142-10	Tubing, Polyethylene, .5" OD	1
10	27876	Head Assembly	1
11	28409	Discharge Valve Assembly	1
12	27540	Valve Housing, UHMW PE	1
13	10562	Suction Valve Assembly	1
14	27512	Head, 3.0 UHMW PE, deep cavity	1
15	10340	Screw, 10-24 x 3/4" S.S.	4
16	31419*	Liquifram™, 3.0 SI Fluorofilm™	1
18	25850	Foot Valve Assembly	1
19	25605	Flush Valve Housing	1
20	25600	Foot Valve Seat, black Polypropylene	1
21	10834	Elbow Connector Asm.	1
22	10141-06	Tubing, Vinyl, .5" OD	1
23	10156	Plastic Tie	1
25	10342-16	Tubing Polyethylene, .375" OD	1
26	37203	Clamp Ring	3
--	32700	Tubing Straightener (not shown)	1

\*Parts included in Spare Parts Kit No. SP-29.