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# Liquid End Sheet

## LE-79

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 solution injection.
2. The purpose of the injection check valve is to prevent backflow from the 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 injection check valve, the injection check valve should be installed upwards.

### B. CONNECTING DISCHARGE TUBING

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 the small end of the coupling nut onto tubing, then slide on the clamp ring.
3. 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.)
4. 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.*

5. Follow the same procedure for connecting tubing to the 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 (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 at 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 vave on a fresh water line whose pressure is at least 5 psi (0.35 Bar) greater than the 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 ope)rate 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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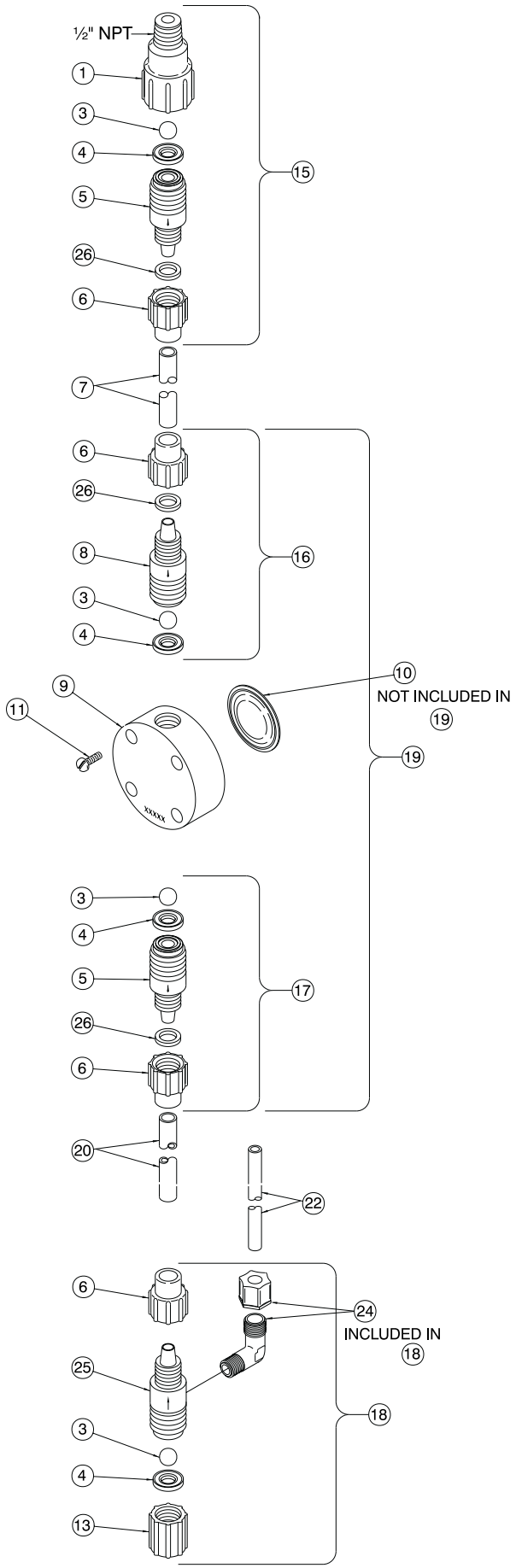
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Replaces same of Rev.C 10/97
1503.D X/98

**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 |
|---|---|---|---|
| 1 | 10294 | Injector Fitting, PVC | 1 |
| 3 | 10338* | Ball, Ceramic, .375" | 4 |
| 4 | 10107* | Seal Ring, Hypalon® | 4 |
| 5 | 10492 | Valve Seat, Gray PVC | 2 |
| 6 | 10411 | Coupling Nut | 4 |
| 7 | 10142-10 | Tubing, Polyethylene, .5" O.D. | 1 |
| 8 | 27513 | Valve Housing, UHMW PE | 1 |
| 9 | 27511 | Head, 1.8 SI, UHMW PE | 1 |
| 10 | 10105* | Liquifram™, 1.8 SI, Hypalon® | 1 |
| 11 | 10340 | Screw, 10-24 x 3/4" S.S. | 4 |
| 13 | 10978 | Foot Valve Seat, Polypropylene | 1 |
| 15 | 10764 | Injection Check Valve Assembly | 1 |
| 16 | 10512 | Discharge Valve Assembly | 1 |
| 17 | 10513 | Suction Valve Assembly | 1 |
| 18 | 25492 | Foot Valve Assembly | 1 |
| 19 | 25489 | Head Assembly, LE-79 | 1 |
| 20 | 10141-06 | Tubing, Vinyl, .5" O.D. | 1 |
| 22 | 10342-16 | Tubing, Polyethylene, .375" O.D. | 1 |
| 24 | 10834 | Elbow Connector | 1 |
| 25 | 25199 | Flushing Valve Body P.E. | 1 |
| 26 | 37203 | Clamp Ring | 3 |
| --- | 32293 | Suction Tubing Straightener (not shown) | 1 |

*Parts included in Spare Parts Kit SP-79.




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