Liquid End Sheet

LE-89

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. Purpose of injection/anti-syphon valve is to prevent backflow from treated line.
3. A ½" NPT female fitting with sufficient depth will accept the injection valve.
4. To insure correct seating of the ball inside the check valve, the injection check valve should be installed upwards.

B. CONNECTING DISCHARGE PIPE

1. Discharge tubing is relatively stiff translucent tubing.
2. Route tubing from injection check valve to 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 fitting.
DO NOT USE PIPE WRENCH.

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

C. CONNECTING SUCTION PIPE

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 solution container. Maximum recommended vertical suction lift is 5 ft (1.5 m).
3. Follow same procedure (see ***B. Connecting Discharge Pipe***) in connecting suction tubing to suction valve and foot valve.

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.
3. If remote auto flush is being used, 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 solution 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 no auto flush is being used, 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 using remote auto 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 Auto Flush should now be started and allowed to operate normally. Close shut off valve on fresh water line as soon as pump is primed.

NOTE:

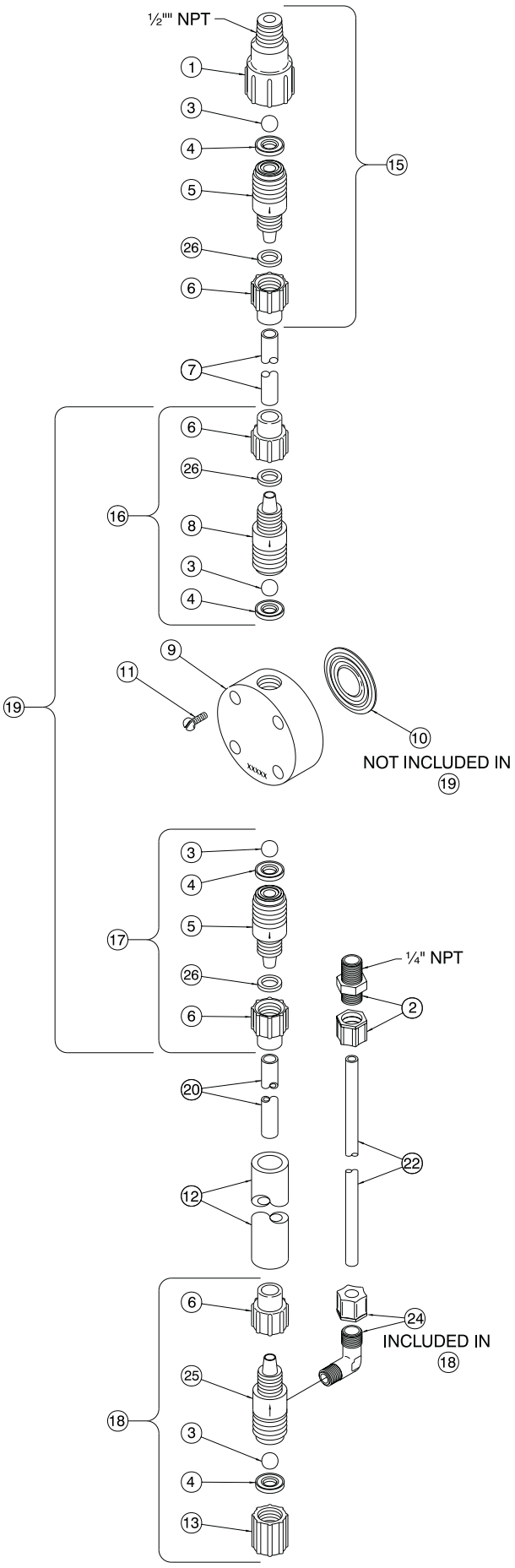
To prevent syphoning, injection check valve must be located where there is positive pressure or elevation higher than solution level.

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Replaces same of Rev. C 9/97
1504.D 3/98

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	QTY.
1	10294	Injector Fitting	1
2	10482	Male Connector	1
3	10338*	Ball, Ceramic	4
4	10107*	Seal Ring, Hypalon®	4
5	10492	Valve Seal, Gray PVC	2
6	10411	Coupling Nut, Gray PVC	4
7	10142-10	Tubing, Polyethylene, .5" O.D.	1
8	27513	Valve Housing, UHMW PE	1
9	27510	Head, 0.9 SI UHMW PE	1
10	10102*	Liquifram™, 0.9 SI Hypalon®	1
11	10340	Screw, 10-24 x 3/4" S.S.	4
12	10322	Weight, Ceramic	1
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	25488	Head Assembly, LE-89	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	1
26	37203	Clamp Ring	3

*Parts included in Spare Parts Kit No. SP - 89.

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