

# Liquid End Sheet

## LE-158S / LE-158SU

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 must be installed vertically (upwards).

### 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 the small end of the 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 the discharge valve housing so that tubing butts up against valve housing and will not go any further.
5. Slide ferrule down so that the cone shaped end fits snugly into discharge valve housing.
6. Slide down the coupling nut to the threads and engage. While pushing tubing into valve housing, tighten the coupling nut by hand 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 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. PRIMING

1. Connect pressure release tubing to pressure release port on the four function valve.
2. Route tubing to solution reservoir and anchor with a plastic tie. Do not submerge tubing in solution.
3. Set pump at 80% speed and 100% stroke. Start pump.
4. Pull on Pressure Release knob (red or black knob), holding knob out until solution is visible through translucent return tubing.
5. The pump is now primed.

**NOTE:**

(a) Pump is normally self-priming if suction lift is not 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 the above steps **D. PRIMING** are followed.

(b) If the pump does not self prime, remove discharge valve housing and ball and pour water or solution slowly into discharge port until head is filled. Follow step **D. PRIMING** thereafter.

### E. DEPRESSURIZING DISCHARGE LINE

1. It is possible to depressurize the discharge line and pump head without removal of tubing or loosening of fittings.

Be sure injection check valve is properly installed and is operating. If a gate valve or globe has been installed downstream of injection check valve, it should be closed. Be certain relief tubing is connected and run to solution reservoir.

2. Pull on both anti-syphon and relief knobs.
3. The discharge line is now depressurized.
4. If injection check valve is of higher elevation than pump head, disconnecting tubing at injection check valve end will allow air to enter and cause solution to drain back to tank.

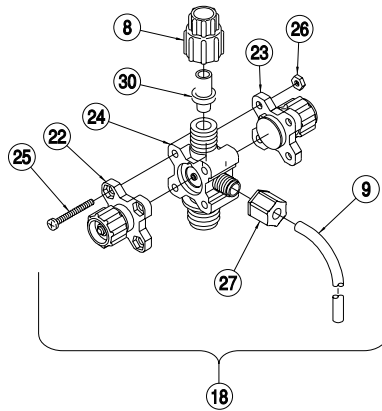


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**NOTE:**

Threaded connections into pump head are 3/4"-16 UNF 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-158S  | LE-158SU |
| 1       | 27352    | Flapper Valve, Flexoprene               | 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, 1/4" O.D. PE                    | 1        |          |
|         | 25636-10 | Tubing, 1/4" O.D. PE                    | 1        |          |
|         | 28636-10 | Tubing, 1/4" O.D. UVPE                  |          | 1        |
|         | 28636-16 | Tubing, 1/4" O.D. UVPE                  |          | 1        |
| 10      | 30912    | Head, 0.5 SI PVC                        |          | 1        |
| 11      | 10340    | Screw, 10-24 x 3/4" SS                  | 4        | 4        |
| 12      | 30916*   | Liquifram, 0.5 SI TFE Co-Polymer        | 1        | 1        |
| 14      | 30375    | Valve Housing, PVC                      | 1        | 1        |
| 15      | 10978    | Foot Valve Seat                         | 1        | 1        |
| 16      | 10123    | Strainer, Polypropylene                 | 1        | 1        |
| 17      | 30919    | Inj. Check Valve Assembly               | 1        | 1        |
| 18      | 30635    | Anti-Syphon/Pressure Relief Valve Asm   | 1        |          |
|         | 31683    | Anti-Syphon/Pressure Relief Valve Asm   |          | 1        |
| 19      | 30924    | Suction Valve Asm                       | 1        | 1        |
| 20      | 30921    | Foot Valve Asm                          | 1        | 1        |
| 21      | 30935    | Head Asm, LE-158S                       | 1        |          |
|         | 31681    | Head Asm, LE-158SU                      |          | 1        |
| 22      | 33024    | Relief Cap Assembly                     | 1        | 1        |
| 23      | 33138    | Anti-Syphon Cap Assembly                | 1        | 1        |
| 24      | 30424    | Valve Body, PVC                         | 1        | 1        |
| 25      | 25627    | Screw, 6-32 x 1 1/4" SS                 | 4        | 4        |
| 26      | 25628    | Nut, Hex 6-32 SS                        | 4        | 4        |
| 27      | 25631    | Coupling nut                            | 1        | 1        |
| 30      | 28663    | Ferrule                                 | 4        | 4        |
|         | 32293    | Suction Tubing Straightener (not shown) | 1        | 1        |

\*Parts included in Spare Parts Kit Sp-U8

