

# Lafferty Equipment Manufacturing, Inc. Installation & Operation Instructions

## Model #913105 • LV Foamer Complete

### REQUIREMENTS

#### Water

Temperature..... up to 160°F  
Pressure..... 35 - 125 PSI  
Flow..... up to 2 GPM  
Supply Line ..... 1/2"

Compressed Air ..... 1.25 CFM

Hose ..... 3/4" x 40'

Nozzle ..... 40150

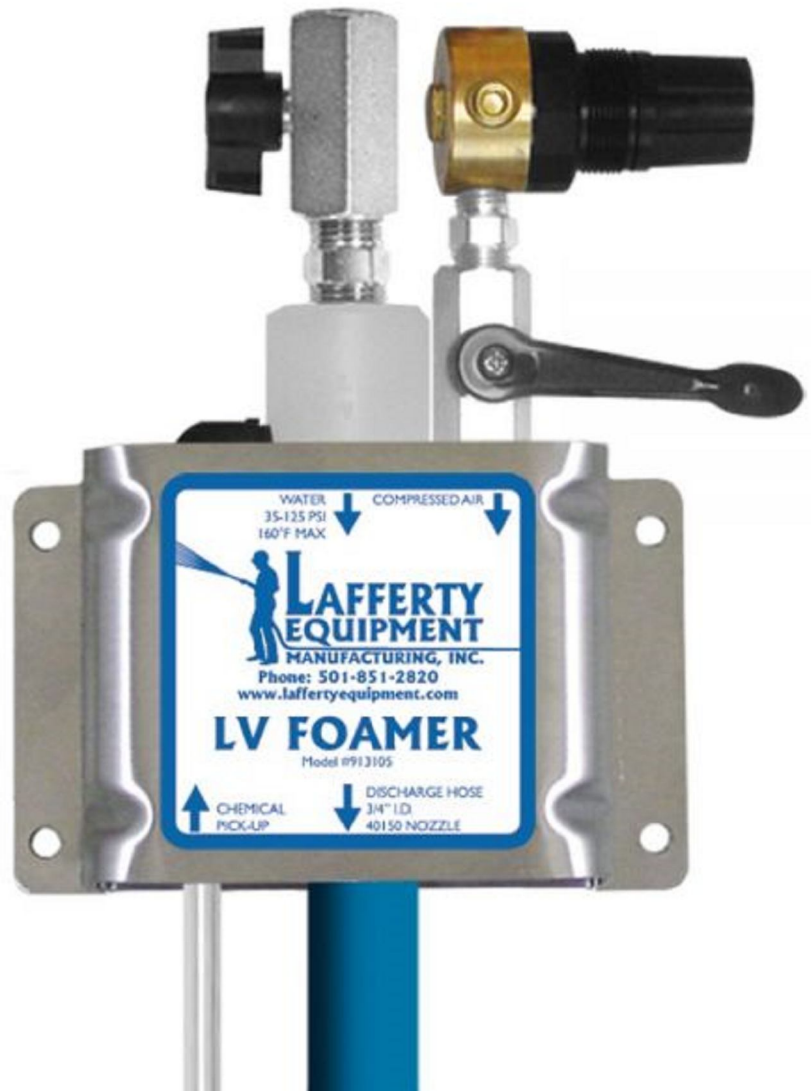
### OPTIONS

#### Stainless Steel Hose Racks

Large ..... # 224150  
Small ..... # 224145

#### Stainless Steel Jug Racks

1 Gallon Round ..... # 224200  
1 Gallon Square ..... # 224205  
2 ½ Gallon (8 ½" x 10 ½") ..... # 224210  
5 Gallon (12" x 12") ..... # 224215  
5 Gallon Round Locking ..... # 224216



**READ ALL  
INSTRUCTIONS BEFORE  
USING EQUIPMENT!**

[www.LaffertyEquipment.com](http://www.LaffertyEquipment.com)  
501-851-2820

## Principles of Operation

This is a water driven foamer that requires water pressure, compressed air and chemical concentrate to generate a powerful, clinging foam that can be applied to any surface. It will siphon chemical concentrates from any sized container. Dilution ratios are controlled with metering tips.



# Safety & Operational Precautions

- For proper performance do NOT modify, substitute nozzle, hose diameter or length.
- Manufacturer assumes no liability for the use or misuse of this unit.
- When connecting to a potable water supply follow all local codes for backflow prevention.
- Wear protective clothing, gloves and eye wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- For pressures over 100 PSI, remove the discharge valve or lower pressure.
- Follow the chemical manufacturer's safe handling instructions.
- NEVER mix chemicals without first consulting chemical manufacturer.

## TO INSTALL (REFER TO DIAGRAM, NEXT PAGE.)

1. Mount the unit to a suitable surface above the chemical supply to prevent siphoning.
2. Connect the discharge hose.
3. Connect water supply, to prevent blocking the small water jets in the foamer body flush any new plumbing of debris before connecting. If water piping is older and has known contaminants install a filter.
4. Connect air supply, if air line is older and has known contaminants install a filter.

## Set the chemical dilution ratio by installing a metering tip into each chemical check valve.

- For the strongest possible chemical dilution ratio, do not install a metering tip.
- See chemical label for dilution ratio recommendation or consult your chemical supplier.
- The dilution ratios in the metering tip chart are based on chemical with a viscosity of 1CPS.
- For water pressure other than the example, use the Metering Tip Selection Formula.
- Chemical viscosity and applications vary, you may need to increase/decrease the tip size to get the best result.
- Once metering tip is selected and installed, push the chemical tube over the check valve and immerse the chemical strainer into your chemical concentrate.

## TO OPERATE

1. Make final metering tip adjustments based on application results.
2. With wand in hand open the water ball valve, and the air ball valve.
  - Wait a few seconds and observe foam consistency.
  - Use the least amount of air needed to achieve good foam quality to prevent water pressure fluctuations from affecting performance. Air pressure must be kept lower than water pressure.
  - If foam consistency is too dry or too wet pull out on the air regulator knob, turn slightly clockwise for dryer foam and counterclockwise for wetter foam. Wait a few seconds to see each adjustment.
  - Medium wet foam will give the best cleaning results! Dry foam will NOT clean as well!
  - You may also have to try different sized metering tips and air settings until foam consistency and cleaning results are acceptable. Once this is set and desired foam consistency is achieved push lock the knob. you are ready to start application.
3. When foaming is completed, close the discharge ball valve, return to the unit and close the water and air ball valves. Briefly re-open the discharge ball valve to relieve pressure in the hose. Rinse before the foam dries.

### Metering Tip Selection Chart

Metering Tip Color	Oz. per Min.	Example: Dilution Ratio @ 40 PSI
Brown	.56	149:1
Clear	.88	95:1
Bright Purple	1.38	60:1
White	2.15	39:1
Pink	2.93	28:1
Corn Yellow	3.84	22:1
Dark Green	4.88	17:1
Orange	5.77	14:1
Gray	6.01	14:1
Light Green	7.01	12:1
Med. Green	8.06	10:1
Clear Pink	9.43	9:1
Yellow Green	11.50	7:1
Burgundy	11.93	7:1
Pale Pink	13.87	6:1
Light Blue	15.14	5:1
Dark Purple	17.88	—
Navy Blue	25.36	—
Clear Aqua	28.60	—
Black	45.00	—
No Tip Ratio	up to 5.0:1	

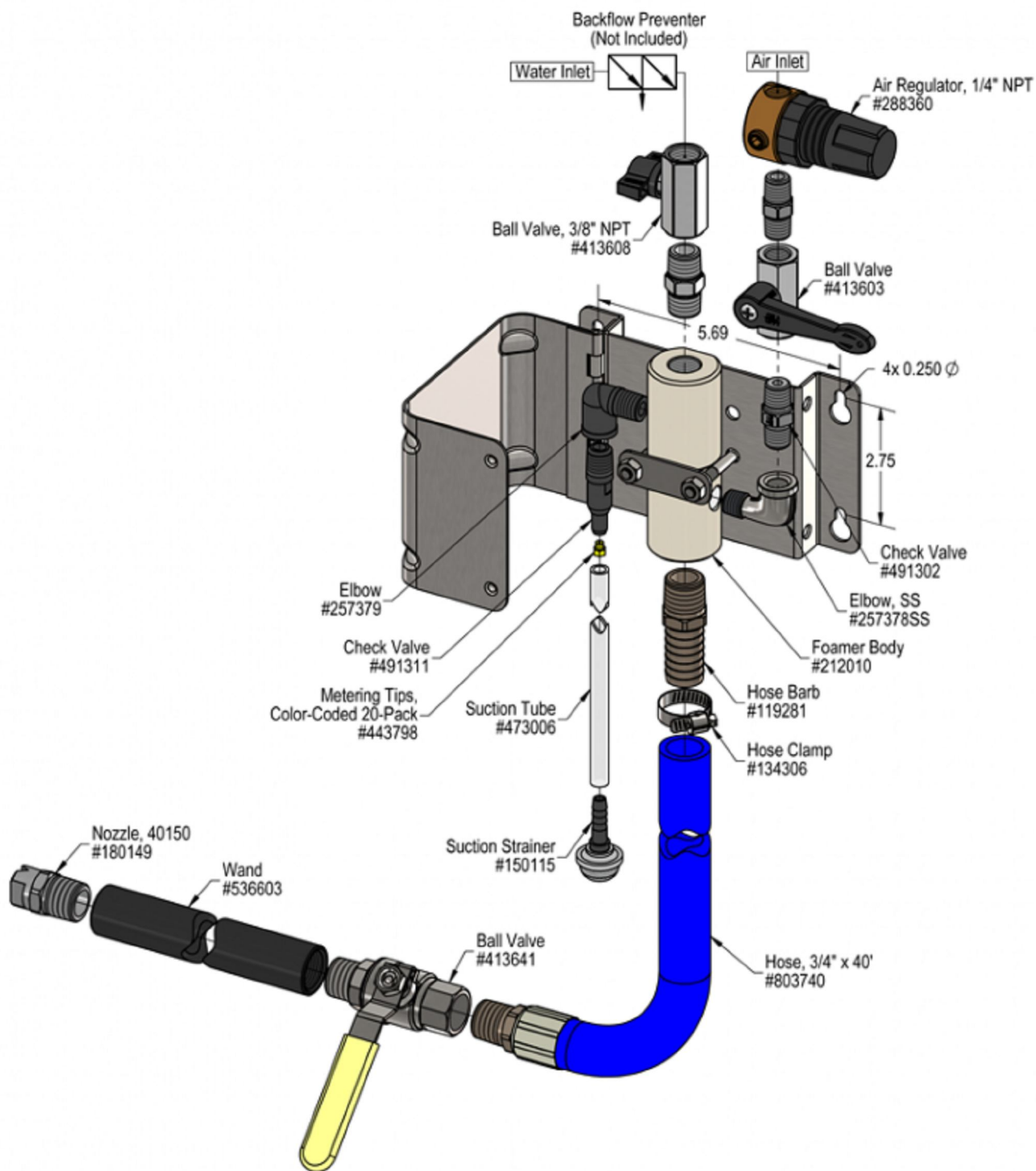
The dilution ratios above are approximate values. Due to chemical viscosity, actual dilution ratios may vary.

### Metering Tip Selection Formula

$$\frac{\text{GPM} \times 128}{\text{Dilution Ratio}} = \text{Oz. per Min}$$

### Flow Rate Chart

Pressure	Flow Rate
PSI	GPM
40	0.65
50	0.73
60	0.80
70	0.86
80	0.92



# Troubleshooting Guide

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Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Foam surges and/or hose "bucks".	1, 2, 3, 4, 6, 7, 8, 9, 10	12, 13, 14, 15, 16, 18, 19
B) Foamer will not draw chemical.	1, 3, 4, 7, 8, 9, 10	12, 13, 14, 15, 16, 18, 19
C) Foam too wet.	2, 3, 4, 6, 7, 8, 9, 10	13, 14, 15, 16, 18, 19
D) Foam does not clean properly (too dry).	1, 4, 6, 11	
E) Using too much chemical.	5	
F) Water/chemical backing up into air line.		17
G) Water backing up into chemical container.		18
H) Air or chemical solution backing up into water line.		20

## Possible Cause / Solution

Startup	Maintenance
<p><b>1. Air pressure too high</b></p> <ul style="list-style-type: none"> <li>Adjust the air regulator slowly counterclockwise until output stabilizes.</li> </ul>	<p><b>12. Foamer inlet orifice clogged</b></p> <ul style="list-style-type: none"> <li>Check/clean inlet orifice for obstructions. DO NOT DRILL OUT. Install a water filter.</li> </ul>
<p><b>2. Water pressure or water volume too low/inlet piping too small causing poor chemical pick up</b></p> <ul style="list-style-type: none"> <li>Increase water pressure or water volume (SEE REQUIREMENTS).</li> </ul>	<p><b>13. Chemical strainer or metering tip partially blocked</b></p> <ul style="list-style-type: none"> <li>Clean or replace chemical strainer and/or metering tip.</li> </ul>
<p><b>3. Inlet, discharge or chemical (2-Way) ball valve not completely open,</b></p> <ul style="list-style-type: none"> <li>Completely open the inlet, discharge and chemical ball valves.</li> </ul>	<p><b>14. Chemical tube stretched out or pin hole/cut in chemical tube sucking air.</b></p> <ul style="list-style-type: none"> <li>Cut off end of tube or replace tube.</li> </ul>
<p><b>4. Not enough chemical - metering tip too small</b></p> <ul style="list-style-type: none"> <li>Install larger metering tip.</li> </ul>	<p><b>15. Vacuum leak in chemical pick-up connections</b></p> <ul style="list-style-type: none"> <li>Tighten the connection.</li> </ul>
<p><b>5. No metering tip installed or metering tip too large</b></p> <ul style="list-style-type: none"> <li>Install smaller metering tip.</li> </ul>	<p><b>16. Air regulator failed allowing too much air or not enough air</b></p> <ul style="list-style-type: none"> <li>Clean or replace.</li> </ul>
<p><b>6. Improper chemical</b></p> <ul style="list-style-type: none"> <li>Ensure product is recommended for foaming and the application.</li> </ul>	<p><b>17. Air check valve failed</b></p> <ul style="list-style-type: none"> <li>Clean or replace.</li> </ul>
<p><b>7. Chemical tube not immersed in chemical or depleted</b></p> <ul style="list-style-type: none"> <li>Immerse tube or replenish.</li> </ul>	<p><b>18. Chemical check valve stuck or failed</b></p> <ul style="list-style-type: none"> <li>Clean or replace.</li> </ul>
<p><b>8. Discharge hose too long or wrong size or kinked</b></p> <ul style="list-style-type: none"> <li>Straighten the hose or replace hose with correct size and length.</li> </ul>	<p><b>19. Hard water scale or chemical build-up may have formed in the foamer body causing poor or no chemical pick-up</b></p> <ul style="list-style-type: none"> <li>Follow Preventive Maintenance instructions below, using hot water or descaling acid. When there is no draw at all, carefully remove fittings and soak entire body in descaling acid.</li> </ul>
<p><b>9. Nozzle size too small</b></p> <ul style="list-style-type: none"> <li>Replace nozzle with correct size.</li> </ul>	<p><b>20. No backflow preventer installed and/or inlet ball valve left on when not in use</b></p> <ul style="list-style-type: none"> <li>Install appropriate backflow preventer into water line.</li> </ul>
<p><b>10. Use of an oiler in the airline will cause poor foam quality</b></p> <ul style="list-style-type: none"> <li>Use only clean, dry air.</li> </ul>	
<p><b>11. Soil has hardened on surface, rinse foam before it dries</b></p> <ul style="list-style-type: none"> <li>Reapplication may be necessary.</li> </ul>	

**PREVENTIVE MAINTENANCE:** When the unit will be out of service for extended periods, place chemical tube(s) in water and flush the chemical out of the unit to help prevent chemical from drying out and causing build-up. Periodically check and clean chemical strainer and replace if missing.

