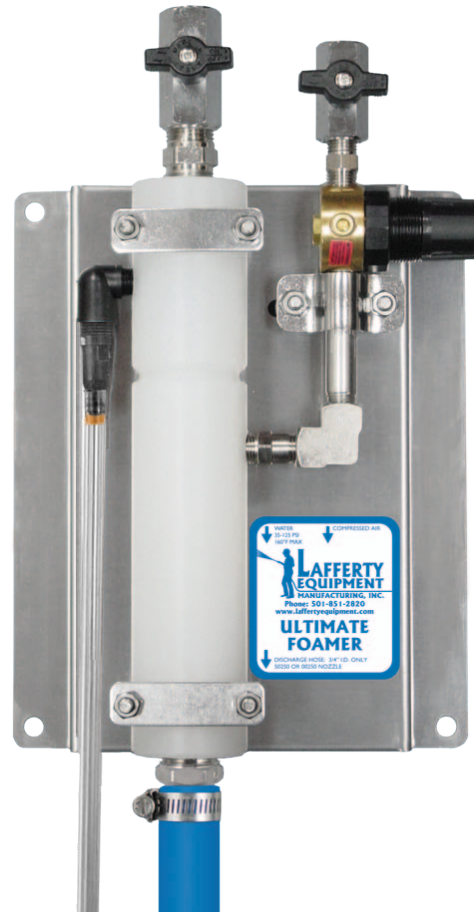


# LAFFERTY EQUIPMENT MANUFACTURING, INC. Installation & Operation Instructions

## Model # 914105 • Ultimate Foamer Complete

REQUIREMENTS		
Water	U.S.	S.I.
Supply line	1/2 in (min.)	12.7 mm (min.)
Temperature	up to 160°F	up to 70°C
Pressure	35 - 125 psi	2.4 - 8.6 bar
Flow	1.3 - 1.9 gpm	4.9 - 7.2 lpm
Compressed Air		
Flow	up to 5 cfm	up to 142 lpm
Hose		
ID	3/4 in	19.1 mm
Length	50 ft	15.2 m
Nozzle(s)		
Type/size	50250	

OPTIONS		
Nozzle		
# 180152	00250 (0°)	
Stainless Steel Accessories		
# 224145	Hose Rack, Small	
# 224150	Hose Rack, Large	
Jug Racks		
# 224200	1 gallon, round (6 3/4 in ID)	3.8 liter, round (171 mm ID)
# 224205	1 gallon, square (6 3/8 in x 6 3/4 in)	3.8 liter, square (162 mm x 171 mm)
# 224210	2 1/2 gallon (8 1/2 in x 10 1/2 in)	9.5 liter, square (216 mm x 267 mm)
# 224215	5 gallon (12 in x 12 in)	19 liter (305 mm x 305 mm)



**READ ALL  
INSTRUCTIONS BEFORE  
USING EQUIPMENT!**

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## Principles of Operation

This is a venturi foamer that will siphon chemical concentrates from any sized container, providing up to 21 different dilution ratios using the supplied metering tips. The foamer requires water pressure and compressed air to generate a powerful cleaning, clinging foam and project it onto any surface.



## Safety & Operational Precautions

- Manufacturer assumes no liability for the use or misuse of this unit.
- Backflow Prevention: If you are connecting to a potable water supply, be sure to follow all local codes for backflow prevention.
- Wear protective clothing, gloves and eyewear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- For pressures over 100 PSI, remove the discharge ball valve.
- Follow the chemical manufacturer's safe handling instructions.

### TO INSTALL (Refer to diagram, next page. Do not turn on during installation.)

1. Mount the unit to a suitable surface above chemical supply to prevent siphoning.
2. Connect the hoses as shown in the diagram.
3. Select chemical dilution ratio by selecting and installing a metering tip into chemical check valve. (For the strongest possible chemical dilution ratio, do not install a metering tip.)

**How to Select the Correct Metering Tip** - See chemical label for dilution ratio recommendation or consult your chemical supplier.

- The dilution ratios provided in the Metering Tip Selection Chart, at right, are based on water-thin chemical.
  - Due to varying chemical viscosities, you may need to increase/decrease the metering tip size.
  - If you have water pressure other than the example, use the Metering Tip Selection Formula.
4. After metering tip is installed, push the chemical tube over the check valve and immerse the chemical strainer into your chemical concentrate.
  5. Connect water supply.
  6. Connect compressed air supply.

### TO FOAM

1. Hold the wand firmly and direct the discharge in a safe direction. Open the discharge ball valve, the foam ball valve, and the air ball valve.
2. WAIT SEVERAL SECONDS for foam output to stabilize. Air pressure adjustment is the most important element of proper operation. Air pressure must be kept lower than water pressure. Use the least amount of air pressure necessary to achieve good foam quality. Keeping air pressure to a minimum will prevent water pressure fluctuations from affecting foamer performance. Medium wet foam will give the best cleaning results! Very dry foam will NOT clean as well! To adjust foam quality, pull out adjustment knob on air regulator and turn it **very, very slightly clockwise for dryer foam and counterclockwise for wetter foam**. Wait several seconds to see the results of EACH adjustment. **Once properly adjusted the air should not have to be adjusted again.**

If the flow of foam surges, the air pressure is too high. Slightly turn the air regulator counterclockwise. When foam is the desired consistency, push-lock the air regulator. (Surging can also indicate too small of a metering tip has been selected; select larger one.)

3. When foaming is completed, close the discharge ball valve; return to the unit and close the foam ball valve. Slowly re-open the discharge ball valve and expect a **strong blast** of foamy solution. After the air blows the solution out of the hose, close the air ball valve. Close the discharge ball valve and rinse the work surface before foam dries.

Metering Tip Selection		
Metering Tip Color	Oz. per Min.	EXAMPLE: Dilution Ratio @ 40 PSI
Brown	.62	277:1
Clear	.91	188:1
Bright Purple	1.7	104:1
White	2.3	76:1
Pink	3.3	52:1
Corn Yellow	4.0	43:1
Dark Green	5.0	34:1
Orange	6.0	29:1
Gray	6.8	25:1
Light Green	8.1	21:1
Med. Green	9.1	19:1
Clear Pink	11.9	14:1
Yellow Green	13.4	13:1
Burgundy	15.3	11:1
Pale Pink	16.9	10:1
Light Blue	18.0	10:1
Dark Purple	22.5	8:1
Navy Blue	33.1	—
Clear Aqua	39.3	—
Black	59.0	—
No Tip		7.8:1

The dilution ratios provided above are approximate values. Your actual dilution ratio may be higher or lower due to variation in chemical viscosity.

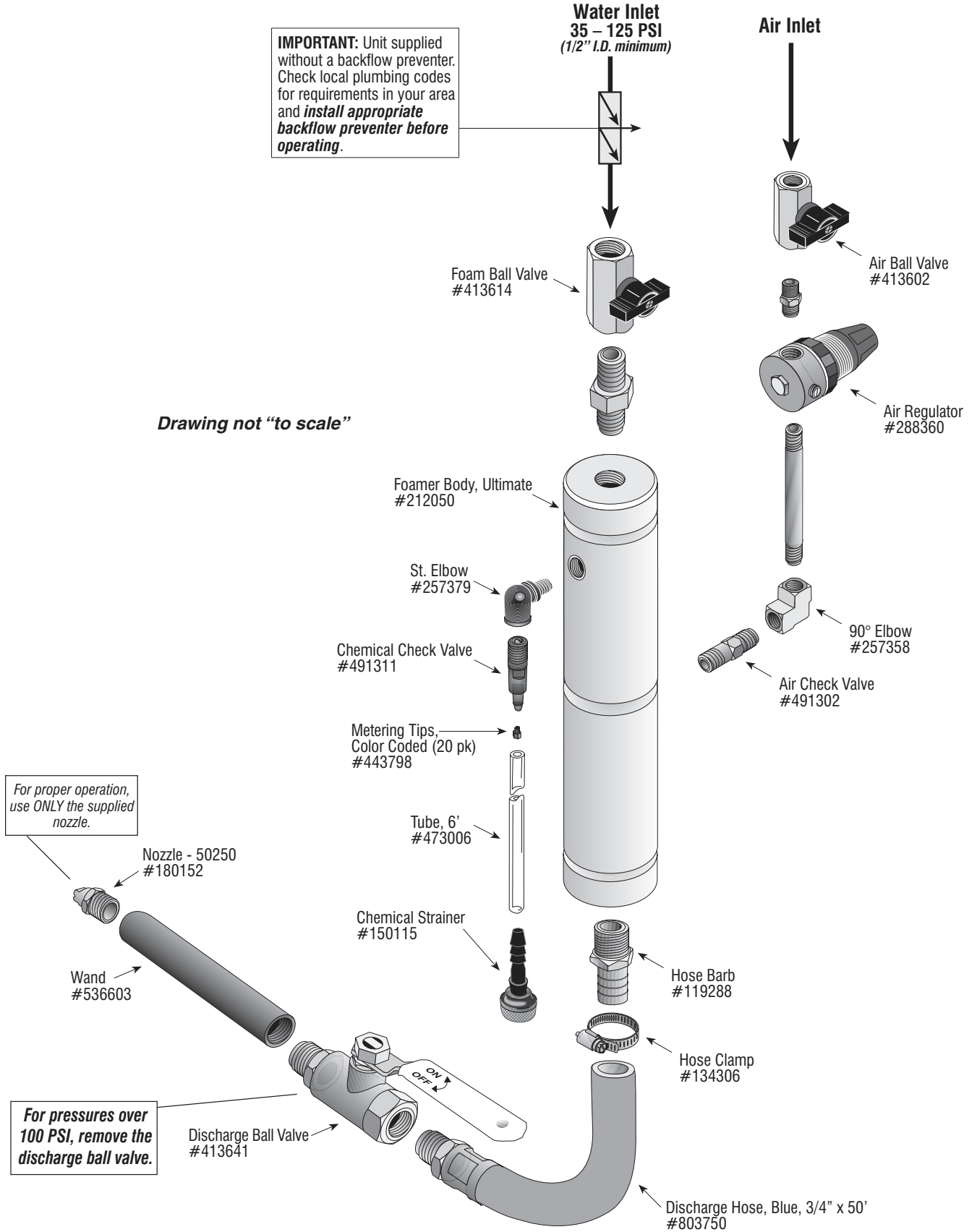
Metering Tip Selection Formula	
(GPM x 128)	See chart below for GPM and convert to oz. per min.
÷	
Dilution Ratio	20:1, 30:1, etc.
=	
Oz. per Min.	Match to nearest number in chart above.

Water Flow Rate Chart	
Water Pressure	Water Flow Rate
PSI	GPM
40	1.3
50	1.4
60	1.5
70	1.5
80	1.7
90	1.8
100	1.9

**⚠ Turn Off Inlet Ball Valves When Not In Use**

**IMPORTANT:** Unit supplied without a backflow preventer. Check local plumbing codes for requirements in your area and *install appropriate backflow preventer before operating.*

*Drawing not "to scale"*



# Troubleshooting Guide

## Model # 914105 • Ultimate Foamer Complete

PROBLEMS WITH FOAMER	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 or 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.		12
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>2. 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>3. Inlet ball valve or discharge ball valve not completely open</b></p> <ul style="list-style-type: none"> <li>Completely open the inlet and discharge ball valves.</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>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>6. Improper chemical</b></p> <ul style="list-style-type: none"> <li>Ensure product is recommended for foaming and/or the application.</li> </ul> <p><b>7. Chemical tube not immersed in chemical or chemical depleted</b></p> <ul style="list-style-type: none"> <li>Immerse tube or replenish.</li> </ul> <p><b>8. Discharge hose too long or wrong size or kinked (See <b>REQUIREMENTS</b> on page 1)</b></p> <ul style="list-style-type: none"> <li>Straighten the hose - Replace hose with correct size.</li> </ul> <p><b>9. Nozzle size too small (See <b>REQUIREMENTS</b> on page 1)</b></p> <p><b>10. Water pressure or water volume too low/inlet piping too small</b></p> <ul style="list-style-type: none"> <li>Increase water pressure or water volume (See <b>REQUIREMENTS</b> on page 1).</li> </ul> <p><b>11. Soil has hardened on surface; always rinse foam before it dries</b></p> <ul style="list-style-type: none"> <li>Reapplication may be necessary.</li> </ul>	<p><b>12. Chemical check valve stuck or failed</b></p> <ul style="list-style-type: none"> <li>Clean or replace.</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>14. Chemical tube stretched out or pin hole/cut in chemical tube (sucking air in)</b></p> <ul style="list-style-type: none"> <li>Cut off end of tube or replace tube.</li> </ul> <p><b>15. Vacuum leak in chemical pick-up connections</b></p> <ul style="list-style-type: none"> <li>Tighten the connection(s).</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>17. Air check valve failed</b></p> <ul style="list-style-type: none"> <li>Replace.</li> </ul> <p><b>18. Foamer inlet orifice clogged</b></p> <ul style="list-style-type: none"> <li>Check/clean inlet orifice for obstructions. <b>DO NOT DRILL OUT.</b> Install an adequate water strainer (<b>OPTIONS</b>, page 1).</li> </ul> <p><b>18. 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 and/or descaling acid.</li> <li>When there is no draw at all, carefully remove fittings and soak entire foamer body in descaling acid.</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>

**PREVENTIVE MAINTENANCE:** *When the unit will be out of service for extended periods, remove chemical tube from chemical concentrate and place in water. Completely open the foam ball valve and discharge ball valve for several seconds to flush chemical and help prevent chemical build-up. Check and/or clean chemical strainer; replace if missing.*