

# Lafferty Equipment Manufacturing, LLC Installation & Operation Instructions

## Model # 975535 · Uni-Body Micro Foamer with Compressor

### REQUIREMENTS

#### Chemical Concentrate

#### Water

Temperature	up to 160°F
Pressure	40 to 80 PSI
Flow	0.35 GPM @ 50 PSI
Supply Line	1/2"

**Compressed Air** up to 0.75 CFM

**Hose** 1/2" ID x 25'

**Nozzle** 6540

**Electric** 120V

### OPTIONS

#### Alternate Air Check Valve - EPDM Standard

Check Valve, Air, SS, (Viton/Hastelloy) # 491306-1

TL Check Valve, Solution, PVC / Viton, 1/4" # 491440-V



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**WARNING! READ ALL  
INSTRUCTIONS BEFORE  
USING EQUIPMENT!**

### OVERVIEW

The Micro Foamer is an all-in-one, low-volume foam applicator featuring a stainless steel enclosure and 120V air compressor with GFI protection. This portable venturi injection system uses city water pressure (40 - 80 PSI) to draw and blend chemical concentrate into the water stream to create an accurately diluted solution using precision metering tips. The on-board compressor generates compressed air that is injected into the solution to increase volume and coverage ability, creating rich, clinging foam that is projected through the discharge hose, wand and fan nozzle.

SAFETY & OPERATIONAL PRECAUTIONS

- Plug into a 15 amp circuit or larger. Do NOT use a light gauge extension cord!
- When connecting to a potable water supply follow all local codes for backflow prevention.
- **WARNING: Severe damage to your facility, or contamination of your potable water supply, can occur without proper backflow prevention.**
- For proper performance do NOT modify, substitute nozzle, hose diameter or length.
- Manufacturer assumes no liability for the use or misuse of this unit.
- 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 ON NEXT PAGE)

1. Carry the foamer to the area to be foamed.
2. Connect chemical pick-up tube to a container of chemical concentrate
3. Connect water supply (with appropriate back-flow prevention.)
4. Ensure the air compressor switch is in the off position.
5. Plug the air compressor into a receptacle. MINIMUM 15 AMP circuit.
6. DO NOT USE AN EXTENSION CORD THAT IS NOT HEAVY DUTY.

Set the chemical dilution ratio by threading one of the color coded metering tips into each chemical check valve. See chemical labels for dilution ratio recommendation or consult your chemical supplier.

- For the strongest dilution ratio do NOT install a colored metering tip.
- The dilution ratios in the metering tip chart are based on water thin chemicals with a viscosity of 1CPS.
- Thicker chemicals will require a larger tip than the ratios shown in the chart.
- Application results will ultimately determine final tip color.
- Select the tip color that is closest to your desired chemical strength and thread it into the tip holder. **DO NOT OVER-TIGHTEN.**
- Push the chemical tube over the check valve barb and place the suction tube in the chemical concentrate.
- If necessary, cut suction tube(s) to length before attaching suction strainer.

TO OPERATE

Always make sure the discharge is closed or pointed in a safe direction before turning inlet valve on. Discharge can be shut off at any time during operation but should not be left off for long periods of time with the inlet valve on.

1. Make sure the discharge ball valve is closed.
2. Connect your water line to the unit.
3. Open the water ball valve.
4. Plug in and turn on air compressor. Use a 15 amp circuit or larger. Compressor will cycle on and off as needed.
5. Make final metering tip adjustments based on application results.
6. With wand in hand open the water ball valve.
7. Open the discharge ball valve.
  - This is a LOW flow foamer so you need to wait several seconds and observe foam consistency.
  - The air regulator can be adjusted BUT normally speaking it should be left as set from the factory.
  - You may also have to try different sized metering tips until foam consistency and cleaning results are acceptable. Once this is set and desired foam consistency is achieved you are ready to start application.
  - When foaming is completed, close the discharge ball valve, return to the unit and close the water ball valve and turn air compressor off. Briefly re-open the discharge ball valve to relieve pressure in the hose.
8. Rinse before the foam dries.
9. If the system will not be used frequently it is a good idea to draw water up the chemical tube to flush the chemistry out of the foamer to avoid the chemical drying out and blocking the small metering tip.
10. Unplug the compressor and disconnect the water supply.

METERING TIP SELECTION

METERING TIP COLOR	OZ / MIN	DILUTION RATIO @ 60 PSI
Brown	0.56	113:1
Clear	0.88	72:1
Bright Purple	1.38	46:1
White	2.15	29:1
Pink	2.93	22:1
Corn Yellow	3.84	16:1
Dark Green	4.88	13:1
Orange	5.77	11:1
Gray	6.01	10:1
Light Green	7.01	9:1
No Tip Ratio Up To:		3.0:1

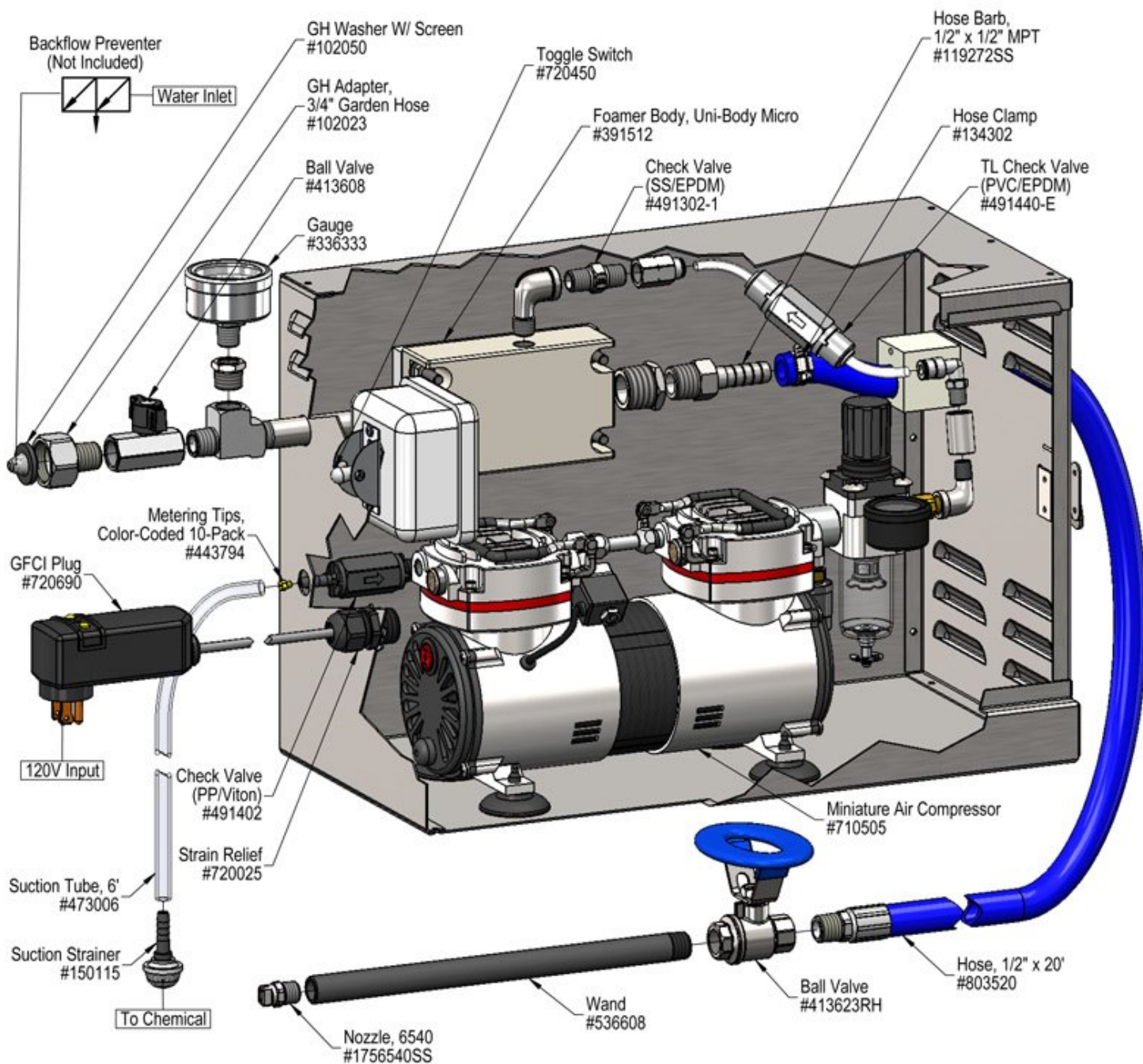
The dilution ratios above are approximate values. Due to chemical viscosity, actual dilution ratios may vary.

FORMULA

- GPM × 128 ÷ Desired Dilution Ratio = oz/min**
- See Unit Flow Rates chart for GPM
  - Use 20 for 20:1 dilution ratio, 30 for 30:1, etc.
  - Match calculated ounces per minute (oz/min) to nearest oz/min in Metering Tip Selection chart.

UNIT FLOW RATES

Pressure	Flow Rate
PSI	GPM
50	0.35
60	0.37
70	0.39
80	0.41
90	0.44
100	0.47



## Troubleshooting Guide

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

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

