# Lafferty Equipment Manufacturing, LLC
# Installation & Operation Instructions

## Model # 916205-G · Super HV Foamer

## REQUIREMENTS

**Chemical Concentrate**

**Water**

| | |
|---|---|
| Temperature | up to 160°F |
| Pressure | 35 to 150 PSI |
| Flow | 9.8 GPM @ 40 PSI |
| Supply Line | 3/4" |
| **Compressed Air** | up to 12 CFM |
| **Hose** | 1-1/2" ID x 50' |
| **Nozzle** | Super HV Open Flow Wand |

## OPTIONS

**Stainless Steel Hose Racks**

| | |
|---|---|
| Extra Large Stainless Steel Hose Rack | # 224152 |
| Large Stainless Steel Hose Rack | # 224150 |

**Stainless Steel Jug Racks**

| | |
|---|---|
| 2 ½ Gal. (8 ½" x 10 ½") | # 224210 |
| 5 Gallon (12" x 12") Round/Square | # 224215 |

## WEIGHT & DIMENSIONS

**Single Package**

| | |
|---|---|
| Shipping Weight | 55 lbs. |
| Shipping Dimensions | 35" x 29" x 12" |




Lafferty EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

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

## OVERVIEW

The Super HV Foamer is a very high volume foam applicator for projecting foaming chemicals on to large surfaces and high ceilings. This venturi injection system uses city water pressure (35 - 150 PSI) to draw and blend chemical concentrate into the water stream to create an accurately diluted solution. An incredible amount of rich, clinging foam is created by injecting compressed air into the solution to greatly increase volume and coverage ability. The foam is then projected through the discharge hose and foam nozzle at distances up to 45 feet. Gauges display incoming water and air pressure.

## SAFETY & OPERATIONAL PRECAUTIONS

- **When connecting to a potable water supply follow all local codes for 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.
- 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. Mount the unit to a suitable surface above the chemical supply to prevent siphoning.
2. Connect the discharge hose.
3. When connecting to a potable water supply follow all local codes for backflow prevention.
4. 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.
5. Connect air supply. If air line is older and has known contaminants install a filter.

**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 wand is in hand and pointed in a safe direction before turning water and air on. DO NOT kink the hose to stop foam flow, return to the unit and close the water and air ball valves**

1. Make final metering tip adjustments based on foam quality and cleaning results.
2. With wand firmly in hand and pointed in a safe direction open the water ball valve, and then 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.
   - To adjust the foam consistency 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!
   - Once desired metering tip and foam consistency is achieved push lock the knob, you are ready to start application.
3. When foaming is completed return to the unit and close the water and air ball valves. Do NOT kink the hose to stop foam flow. Rinse the work surface before foam dries.

### METERING TIP SELECTION

| METERING TIP COLOR | OZ/MIN | DILUTION RATIO @ 40 PSI |
|---|---|---|
| Brown | 0.56 | 2240:1 |
| Clear | 0.88 | 1425:1 |
| Bright Purple | 1.38 | 909:1 |
| White | 2.15 | 583:1 |
| Pink | 2.93 | 428:1 |
| Corn Yellow | 3.84 | 327:1 |
| Dark Green | 4.88 | 257:1 |
| Orange | 5.77 | 217:1 |
| Gray | 6.01 | 209:1 |
| Light Green | 7.01 | 179:1 |
| Med. Green | 8.06 | 156:1 |
| Clear Pink | 9.43 | 133:1 |
| Yellow Green | 11.50 | 109:1 |
| Burgundy | 11.93 | 105:1 |
| Pale Pink | 13.87 | 90:1 |
| Light Blue | 15.14 | 83:1 |
| Dark Purple | 17.88 | 70:1 |
| Navy Blue | 25.36 | 49:1 |
| Clear Aqua | 28.60 | 44:1 |
| Black | 50.00 | 25:1 |
| No Tip Ratio Up To: | | 10:1 |

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

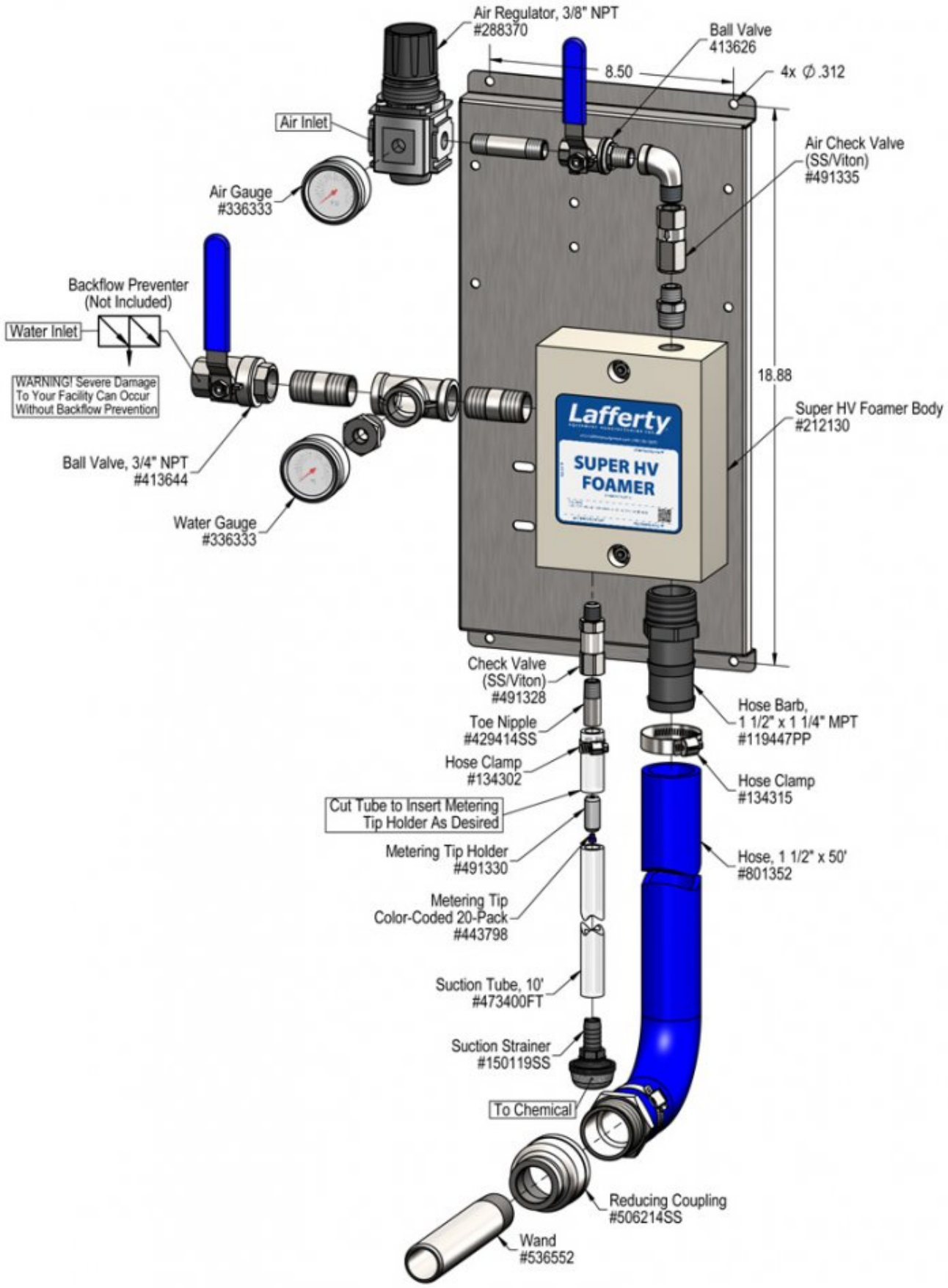
### FORMULA

**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

| PSI | GPM |
|---|---|
| 35 | 9.17 |
| 40 | 9.80 |
| 50 | 10.96 |
| 60 | 12.00 |
| 70 | 12.96 |
| 80 | 13.86 |
| 90 | 14.70 |
| 100 | 15.50 |
| 110 | 16.25 |
| 120 | 16.97 |
| 130 | 17.67 |
| 140 | 18.33 |
| 150 | 18.98 |


Air Regulator, 3/8" NPT
#288370
Ball Valve
413626
8.50
4x Ø.312
Air Inlet
Air Check Valve
(SS/Viton)
#491335
Air Gauge
#336333
Backflow Preventer
(Not Included)
Water Inlet
WARNING! Severe Damage
To Your Facility Can Occur
Without Backflow Prevention
18.88
Lafferty
SUPER HV
FOAMER
Super HV Foamer Body
#212130
Ball Valve, 3/4" NPT
#413644
Water Gauge
#336333
Check Valve
(SS/Viton)
#491328
Hose Barb,
1 1/2" x 1 1/4" MPT
#119447PP
Toe Nipple
#429414SS
Hose Clamp
#134302
Hose Clamp
#134315
Cut Tube to Insert Metering
Tip Holder As Desired
Metering Tip Holder
#491330
Hose, 1 1/2" x 50'
#801352
Metering Tip
Color-Coded 20-Pack
#443798
Suction Tube, 10'
#473400FT
Suction Strainer
#150119SS
To Chemical
Reducing Coupling
#506214SS
Wand
#536552

# Troubleshooting Guide

| 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

1. **Air pressure too high**
   - Adjust the air regulator slowly counterclockwise until output stabilizes.
2. **Water pressure or water volume too low/inlet piping too small causing poor chemical pick up**
   - Increase water pressure or water volume - SEE REQUIREMENTS.
3. **Inlet ball valve not completely open,**
   - Completely open the inlet ball valve.
4. **Not enough chemical - metering tip too small**
   - Install larger metering tip.
5. **No metering tip installed or metering tip too large**
   - Install smaller metering tip.
6. **Improper chemical**
   - Ensure product is recommended for foaming and the application.
7. **Chemical tube not immersed in chemical or chemical depleted**
   - Immerse tube or replenish.
8. **Discharge hose too long or wrong size or kinked**
   - Straighten the hose or replace hose with correct size and length.
9. **Incorrect nozzle(s)**
   - Use only included or recommended nozzle(s) - SEE REQUIREMENTS.
10. **Use of an oiler in the airline will cause poor foam quality**
    - Use only clean, dry air.
11. **Soil has hardened on surface, rinse foam before it dries**
    - Reapplication may be necessary.

### Maintenance

12. **Foamer inlet orifice clogged**
    - Check/clean inlet orifice for obstructions. DO NOT DRILL OUT. Install a water filter.
13. **Chemical strainer or metering tip partially blocked**
    - Clean or replace chemical strainer and/or metering tip.
14. **Chemical tube stretched out or pin hole/cut in chemical tube sucking air.**
    - Cut off end of tube or replace tube.
15. **Vacuum leak in chemical pick-up connections**
    - Tighten the connection.
16. **Air regulator failed allowing too much air or not enough air**
    - Clean or replace.
17. **Air check valve failed**
    - Clean or replace.
18. **Chemical check valve stuck or failed**
    - Clean or replace.
19. **Hard water scale or chemical build-up may have formed in the foamer body causing poor or no chemical pick-up**
    - 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.
20. **No backflow preventer installed and/or inlet ball valve left on when not in use**
    - Install appropriate backflow preventer into water line.

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.