

# Lafferty Equipment Manufacturing, LLC Installation & Operation Instructions

## Model # 976803 · Vision Satellite Trench Foam Sanitizer

### REQUIREMENTS

#### Chemical Concentrate

#### Water

Supply Line	3/4" I.D.
Temperature	up to 160°F
Pressure	40-125 PSI
Flow	Variable, 1.34 - 5.0 GPM

**Hose/Pipe** 1" ID, Not Included

**Compressed Air** up to 4 CFM

### OPTIONS

#### Optional Foam Bars and Hoses

Hose, Blue, 1" x 1' (By Foot) # 803900FT

Custom Length Foam Bars Available Upon Inquiry

#### Regulate the Operation of Multiple Vision Satellite Entryway Foam Sanitizers

6-Zone PLC Vision Satellite Controller (120V) # 976710

6-Zone PLC Vision Satellite Controller (24V) # 976710-24V

#### Alternate Chemical Check Valve - Viton Standard

Check Valve, Chemical, PP(W), 1/4" # 491401  
(EPDM)



[www.laffertyequipment.com](http://www.laffertyequipment.com)

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

### OVERVIEW

The Vision Satellite Trench Foam Sanitizer is an automated, "adjustable flow" foam applicator for feeding "custom made" foam bars. This venturi foamer uses city water pressure (40 - 125 PSI) to draw and blend chemical concentrate into the water stream and create a wide range of dilution ratios. Rich, clinging foam is created by injecting compressed air into the solution to greatly expand volume and coverage ability. The water, chemical and air flow can be adjusted "on-the-fly". Vision Satellite units are activated by compressed air from a Vision Satellite Controller and operated by compressed air local to the satellite - No electrical connection is required at the satellite location. The Vision Controller features highly flexible programmable settings with multiple options to precisely manage trench foam sanitizing in one or more zones.

## SAFETY &amp; 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.
6. When installing the foam bar in the trench, be certain that the bar is not resting on the bottom of the trench. The trench foam bar should be suspended above the bottom of the trench.

## How to Set Your Dilution Ratio:

- The needle valve allows you to achieve a wide range of dilution ratios while you are adjusting the water flow rate to fully feed the nozzles.
- Turn counterclockwise to increase flow or clockwise to decrease flow.
- For a starting place turn the knob completely clockwise (closed) then turn 1 turn counterclockwise (open).
- Once you have the flow rate adjusted and all the nozzles are performing equally, you can try installing a metering tip, if you prefer to have the chemical flow fixed. Since the water flow rate is unknown, this is a trial and error procedure. Refer to the tip chart as a reference.

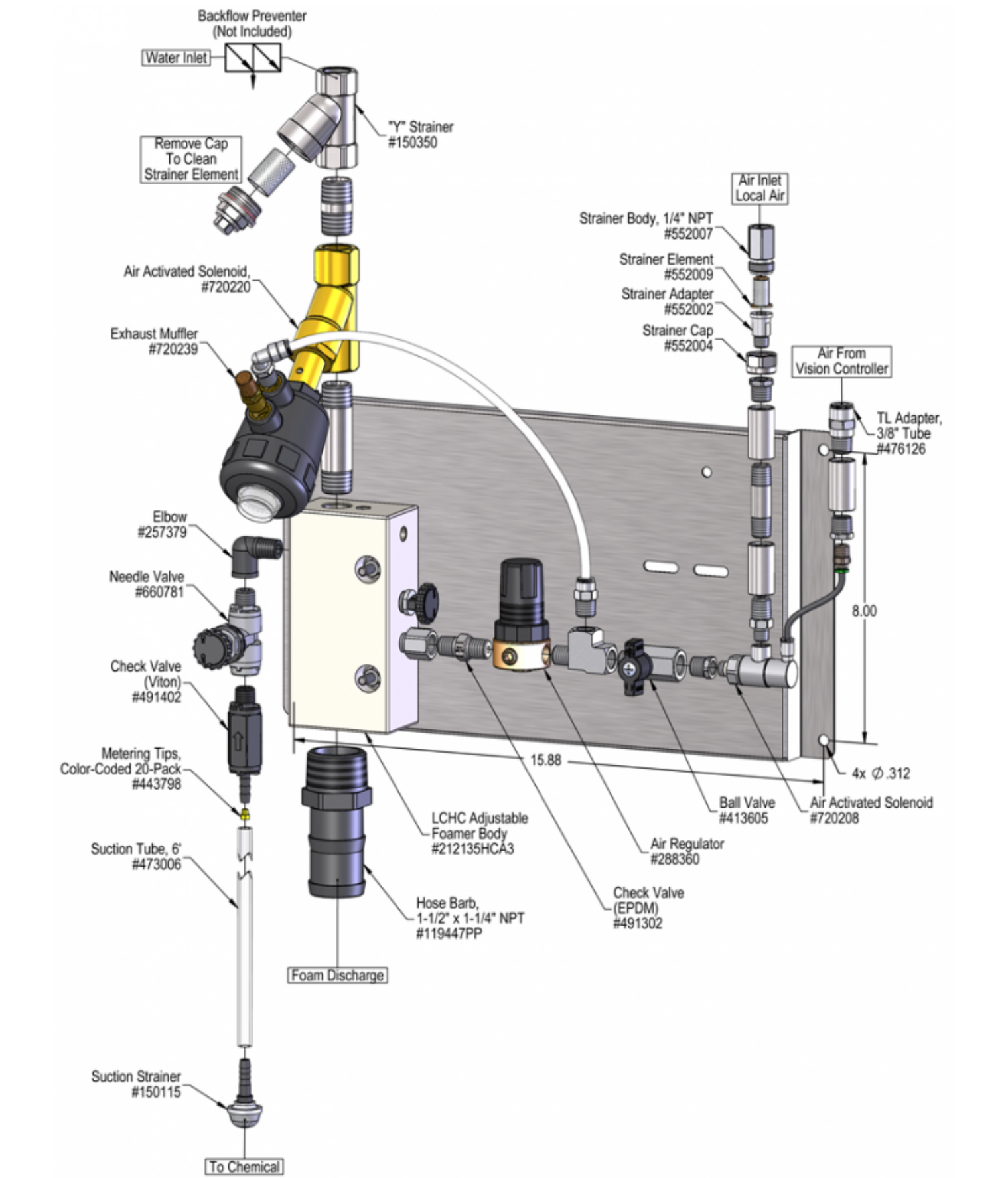
## TO FOAM

1. Final chemical dilution, water flow and air adjustments will now have to be made.
2. Start out with the chemical needle valve open one turn (or with a larger metering tip than you think you will need) and make adjustments until the foamer is foaming correctly.
3. Turn on the water and air ball valve.
  - Wait a few seconds and observe foam consistency and quantity.
  - To adjust foam consistency, turn the air regulator knob clockwise for dryer and counterclockwise for wetter foam. Do not use too much air!
  - If all nozzles are not projecting foam, slightly turn the blue "water flow adjustment knob" counterclockwise to add more water. Wait after each adjustment to see the results. Results are not instant.
  - Continue adding/decreasing water via the blue "water flow adjustment knob" on the foamer body till all nozzles are projecting foam. Increase/decrease till results are acceptable. Be PATIENT.
  - Medium wet foam will give the best cleaning results! Very dry foam will NOT clean as well!
  - You will have to try different chemical, air and water settings until foam consistency and cleaning results are acceptable. Once this is set you are ready to start application. Now you can try to decrease the amount of chemical used (or the metering tip size, if installed) based on cleaning results.

## METERING TIP SELECTION

METERING TIP COLOR	FL-OZ PER MIN
Brown	0.56
Clear	0.88
Bright Purple	1.38
White	2.15
Pink	2.93
Corn Yellow	3.84
Dark Green	4.88
Orange	5.77
Gray	6.01
Light Green	7.01
Med. Green	8.06
Clear Pink	9.43
Yellow Green	11.50
Burgundy	11.93
Pale Pink	13.87
Light Blue	15.14
Dark Purple	17.88
Navy Blue	25.36
Clear Aqua	28.60
Black	50.00

The fl-oz/min shown are approximate values. Due to chemical viscosity, actual fl-oz/min may vary.



## 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.		12

Possible Cause / Solution	
Startup	Maintenance
<b>1. Air volume too high</b> ◦ Adjust the needle valve slowly counterclockwise.	<b>12. Chemical check valve stuck or failed</b> ◦ Clean or replace.
<b>2. Use of an oiler in the airline will cause poor foam quality</b> ◦ Use only clean, dry air.	<b>13. Chemical strainer partially blocked</b> ◦ Clean or replace chemical strainer.
<b>3. Inlet ball valve not completely open</b> ◦ Completely open the ball valve.	<b>14. Chemical tube stretched out or pin hole/cut in tube</b> ◦ Cut off end of tube or replace tube.
<b>4. Not enough chemical -</b> ◦ Turn chemical needle valve knob counterclockwise.	<b>15. Vacuum leak in chemical pick-up connections</b> ◦ Tighten the connection.
<b>5. Chemical needle valve open too much</b> ◦ Turn knob clockwise.	<b>16. Needle valve(s) clogged</b> ◦ Clean or replace.
<b>6. Improper chemical</b> ◦ Ensure product is recommended for the application.	<b>17. Air check valve failed</b> ◦ Replace.
<b>7. Chemical tube not immersed or chemical depleted</b> ◦ Immerse tube or replenish.	<b>18. Water strainer element clogged or missing/foamer inlet orifice clogged</b> ◦ Clean or replace strainer element; check/clean inlet orifice for obstructions. DO NOT DRILL OUT.
<b>8. Discharge hose too long or wrong size or kinked</b> ◦ Straighten the hose or replace with correct hose.	<b>19. Chemical build-up may have formed in the foamer body causing poor or no chemical pick-up</b> ◦ Follow Preventive Maintenance instructions below, using hot water and/or descaling acid. When there is no draw at all, carefully remove fittings and soak entire foamer body in descaling acid.
<b>9. Nozzle size too small</b> ◦ Replace with correct size nozzle.	
<b>10. Water pressure or water volume too low/inlet piping too small causing poor chemical pick up</b> ◦ Increase water pressure or water volume.	
<b>11. Soil has hardened on surface</b> ◦ Always rinse foam before it dries ◦ Reapplication may be necessary.	

**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.