

# Lafferty Equipment Manufacturing, LLC Installation & Operation Instructions

Model # 943620 · Portable 20 Gallon Freedom 2.5 Foamer

## REQUIREMENTS

Ready-to-Use Chemical Solution

**Compressed Air** up to 9 CFM

**Hose** 3/4" ID x 40'

**Nozzle** 50250

## OPTIONS

**Proportioning / Filling Options**

1-Way Ball Valve Mixing Station (4 GPM) # 985100

1-Way Push Lever Mixing Station (4 GPM) # 981100

High Volume Mixing Station (9.9 GPM) # 985835

**Drain Foamer Attachment**

Drain Foamer Attachment (Freedom, 2.5 & Liberty, 2.5) # 538245

**Air Pump Diaphragm Options - Santoprene Standard**

Teflon Diaphragm Upgrade For 1/2" Air Pump # 710919



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

501-851-2820

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



## OVERVIEW

The Portable 20 Gallon Freedom 2.5 Foamer is a medium-to-high volume foam applicator for projecting foaming chemicals on to any surface up close or at distances up to 15 feet. This unit features an all stainless steel cart assembly and uses a rugged 1/2" Sandpiper air-operated, double-diaphragm pump to draw ready-to-use chemical from the tank. It injects compressed air into the solution to greatly increase volume and coverage ability and projects rich, clinging foam through the hose, wand and nozzle. Provides 8 minutes of foaming time per fill.

## SAFETY & OPERATIONAL PRECAUTIONS

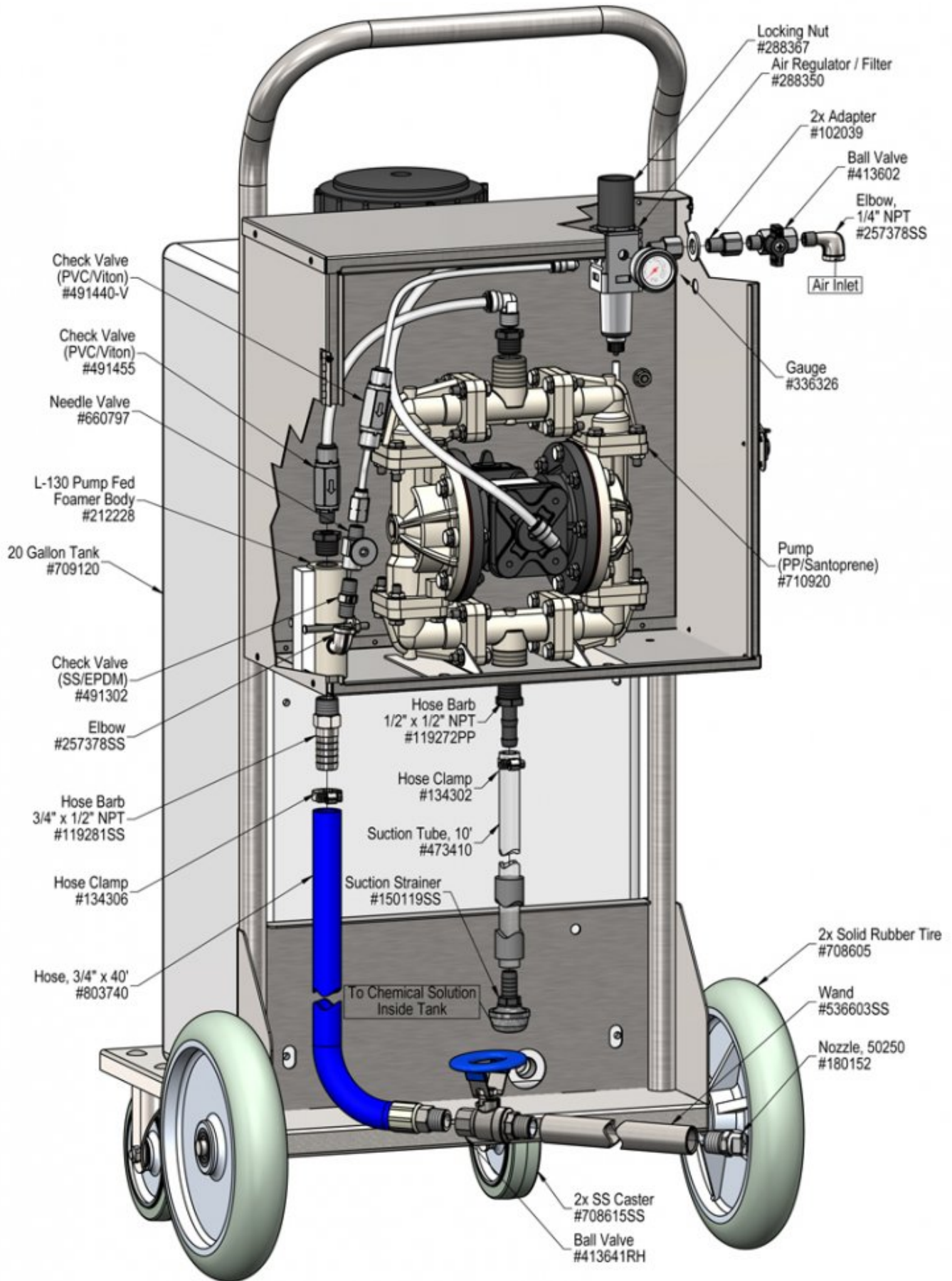
- For proper performance do NOT modify, substitute nozzle, hose diameter or length
- Manufacturer assumes no liability for the use or misuse of this unit.
- Wear protective clothing, gloves and eye-wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- Follow the chemical manufacturer's safe handling instructions.
- DO NOT use d-Limonene or other chemicals that are not compatible with the Santoprene diaphragms.
- TEFLON upgrade is available.

## TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Fill the tank with ready to use solution to the desired level. Replace lid.
2. Attach a compressed airline to the inlet ball valve. DO NOT TURN ON
3. Air Filter/Dryer recommend.

## TO OPERATE

- **Always** make sure the discharge ball valve is closed or pointed in a safe direction before turning the air on. Ball valve can be shut off at any time during operation but should not be left unattended for long periods of time. Expect a strong blast when re-opening ball valve.
  - The unit has been tested and is ready to operate, the air pressure preset at 60 PSI. This is the optimum pump pressure. Test "as is" before making any adjustments.
  - The foam consistency knob is pre-set at approximately 1/2 turn. To adjust foam consistency, turn the foam consistency needle valve counterclockwise a maximum of 1 turn for drier foam and clockwise for wetter foam. Wait several seconds after each adjustment to see the results.
1. With the foam wand in hand direct the discharge in a safe direction and open the discharge ball valve.
  2. To prime the pump, slightly open the air inlet ball valve to make the pump cycle very slow where it will prime. Once the solution reaches the pump open the air valve all the way.
  3. Do NOT run the pump dry. This can cause damage to the pump.
  4. Always slightly open the inlet ball valve until the pump primes.
  5. IF after several seconds the pump hasn't primed turn off the air, remove the suction tube and fill with water and replace. Once the diaphragms are wet priming is not an issue. Open air ball valve to resume set up.
  6. If the flow of foam surges, the needle valve is open too much or the chemical concentration is too weak, reduce the air flow by turning the needle valve slowly clockwise until the foam flow stabilizes. Or add more chemical concentrate.
  7. A medium-wet foam will give the best cleaning results! Very dry foam will NOT clean as well!
  8. When foaming is complete:
    - Close the discharge ball valve.
    - Promptly return to the unit and close the air ball valve.
    - Briefly re-open the discharge ball valve to relieve pressure in the hose.
  9. Rinse the work surface before the foam dries.



## Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Air pump will not pump or runs with no output.	1, 2, 3, 4	8, 9, 10, 11, 12, 13
B) Foam surges and/or hose "bucks".	1, 2, 3, 4, 5, 6	8, 11, 12
C) Foam output too wet.	1, 2, 3, 4, 5, 6	8, 11, 12
D) Foam output too dry.	2	
E) Cleaning results not acceptable.	2, 5, 6, 7	
F) Chemical solution getting into airline		10

Possible Cause / Solution	
Startup	Maintenance
<ol style="list-style-type: none"> <li><b>1. Inlet ball valve partially closed or air pressure too low.</b> <ul style="list-style-type: none"> <li>◦ Completely open air inlet ball valve. Optimum air pressure is 60 PSI.</li> </ul> </li> <li><b>2. Foam consistency needle valve open too much</b> <ul style="list-style-type: none"> <li>◦ Adjust the needle valve slowly clockwise until foam stabilizes.</li> </ul> </li> <li><b>3. Discharge ball valve not completely open or Discharge hose kinked• Completely open the discharge ball valve / straighten hose</b></li> <li><b>4. Solution tube not completely immersed in chemical or container empty</b> <ul style="list-style-type: none"> <li>◦ Immerse tube or replenish chemical.</li> <li>◦ If pump has run dry, manually prime the pump: Remove the clear suction tube and fill the tube with water or chemical solution and reconnect.</li> </ul> </li> <li><b>5. Dilution too weak</b> <ul style="list-style-type: none"> <li>◦ Add more chemical to solution container.</li> </ul> </li> <li><b>6. Improper chemical</b> <ul style="list-style-type: none"> <li>◦ Ensure product is recommended for foaming and/or the application</li> </ul> </li> <li><b>7. Soil has hardened on surface</b> <ul style="list-style-type: none"> <li>◦ Always rinse foam before it dries.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li><b>8. Solution strainer blocked</b> <ul style="list-style-type: none"> <li>◦ Clean or replace</li> </ul> </li> <li><b>9. Air regulator failed</b> <ul style="list-style-type: none"> <li>◦ Clean or replace</li> </ul> </li> <li><b>10. Air or water check valve(s) failed</b> <ul style="list-style-type: none"> <li>◦ Clean or replace</li> </ul> </li> <li><b>11. Discharge hose too long or wrong size or kinked</b> <ul style="list-style-type: none"> <li>◦ Straighten the hose</li> <li>◦ See "Requirements" for correct hose diameter and length</li> </ul> </li> <li><b>12. Nozzle size too small or missing</b> <ul style="list-style-type: none"> <li>◦ See "Requirements"</li> </ul> </li> <li><b>13. Problem with air pump</b> <ul style="list-style-type: none"> <li>◦ Refer to air pump instruction manual</li> <li>◦ Repair or replace</li> </ul> </li> </ol>

**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.

