

Lafferty Equipment Manufacturing, LLC Installation & Operation Instructions

Model # 910330 · WPS Triple Foam System

REQUIREMENTS

Chemical Concentrate OR Ready-to-Use Chemical Solution

Water to Fill Tank (If Diluting Concentrate)

Compressed Air	up to 8 CFM
Liquid Tubing - Pump to Tee	1/2" I.D.
Liquid Tubing - Tee to Foam Sticks	3/8" I.D.
Tubing From Air Supply	1/4" I.D.

OPTIONS

Air and Chemical Tubing (Order in 10' Increments)

Air, Polyflow, 1/4" x 1'	# 475200FT
Solution, Pump to Tee, Polyflow, 1/2" x 1'	# 475400FT
Solution, Tee to Foamer, Polyflow, 3/8" x 1'	# 475300FT

**Poly/Teflon and Kynar/Teflon Air Pumps
(Poly/Santoprene Standard)**

Pump, WR Poly/Teflon, 3/8", 7GPM Max	# 710911
Pump, WR Kynar/Teflon, 3/8", 7GPM Max	# 710912

Alternate Check Valve (Viton Standard)

TL Check Valve, PVC / EPDM, 3/8"	# 491456-E
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**WARNING! READ ALL
INSTRUCTIONS BEFORE
USING EQUIPMENT!**

OVERVIEW

The WPS Triple Foam System is easy to install and operate! This system uses 3 rugged, air-operated, double-diaphragm Warren-Rupp pumps to either draw ready-to-use chemicals or to draw water and chemical concentrate from static tanks and accurately blend them using precision metering tips. Thick, rich, clinging foam is created by injecting compressed air into the solution to greatly expand volume and coverage ability. The foam is then evenly projected through the 6' foam stick assemblies. A fixed flow rate allows the user to use just one air valve to adjust the foam quality for all 3 foam sticks simultaneously. This system is great for retrofitting and for new installations.

SAFETY & OPERATIONAL PRECAUTIONS

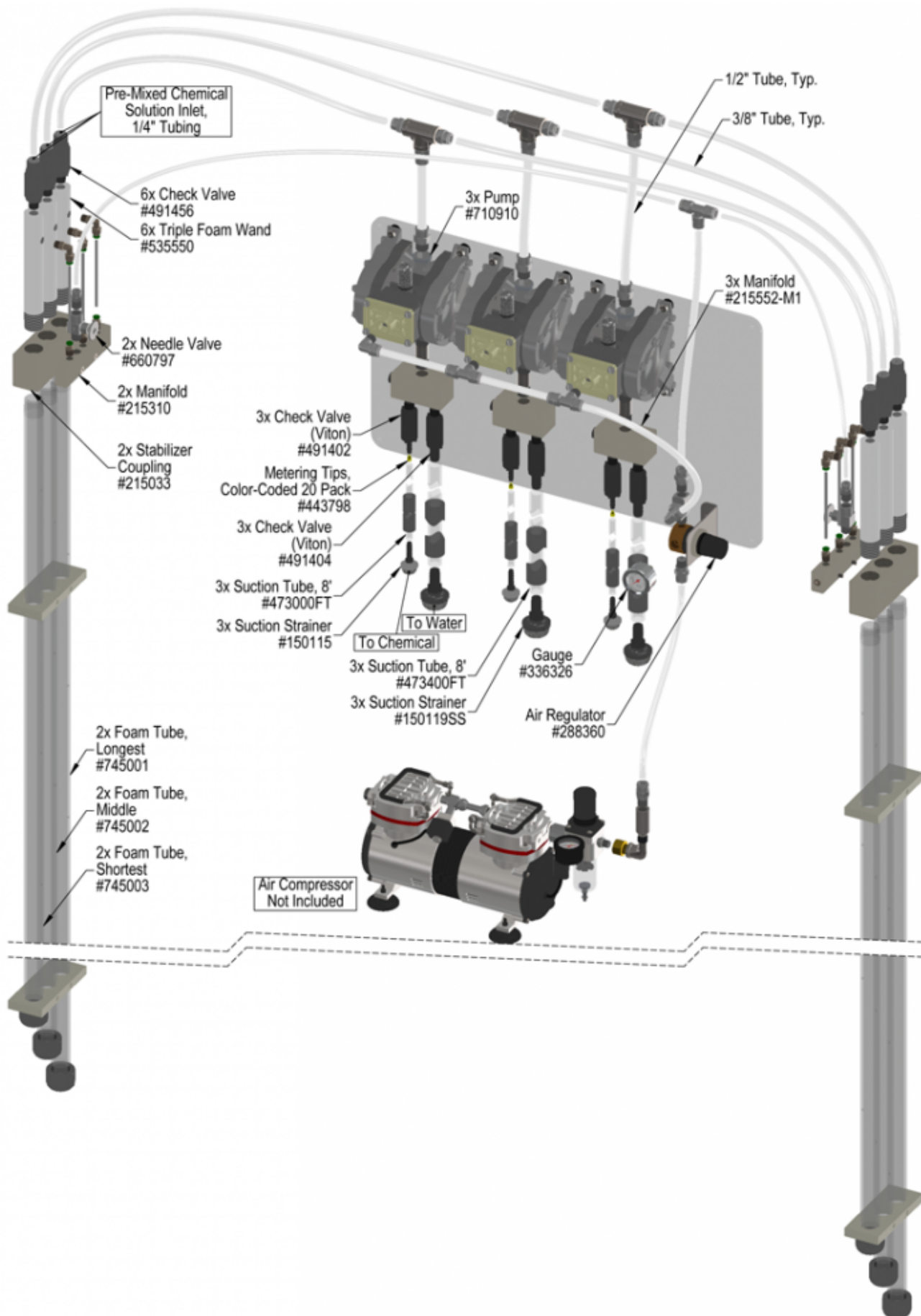
- For proper performance do NOT modify, substitute nozzle, hose diameter or length
- Manufacturer assumes no liability for the use or misuse of this unit.
- Wear protective clothing, gloves and eye-wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.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

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Remove the tube lock check valves from the enclosed bag and install as shown in the drawing.
 2. Mount each of the triple foam sticks to either side of the bay. The longest bar should be mounted so that its foam is the first to contact the vehicle. They should be mounted so that the last hole (in the cap) hits the bottom of the vehicle. The stick sets should be "mirror-images" of each other once mounted.
 3. Run 1/2" I.D. chemical tubing from each of the three "solution pumps" to the middle of the arch and connect with a tubing tee (not included).
 4. From there step down to 3/8" I.D. tubing and connect to the solution check valves. The tubes should be the same length for the best performance.
 5. Run 1/4" air tubing from your compressed air supply to the middle of the arch and push connect it to the 1/4" tube lock of the tee. (not included)
- **If pre-diluted chemical is being used immerse both pick up tubes in solution and skip to: To Operate**
 - **To set the chemical dilution ratio for mixing on the fly, thread one of the color coded metering tips into one chemical check valve. See chemical labels for dilution ratio recommendation or consult your chemical supplier.** (See tip selection chart)
 - For the strongest dilution ratio, do NOT install a colored metering tip or in some cases you will install a tip in the water side if strong dilution ratios are required.
 - 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.
 - Select and thread the tip color that is closest to your desired chemical strength into the tip holder as a starting place. Start out with a larger tip than you think you will need to make sure you have enough chemical to foam.
 - Application results and foam texture and cleaning results will ultimately determine final tip color.
 - Once metering tip is installed, push the chemical tube over the check valve barb and place the strainer in the chemical concentrate.
 - Push the second tube on the other check valve barb and place the strainer in a static tank of water. Do NOT pressurize the tube.

TO OPERATE

1. As a starting point turn the air needle valve on each stick set completely clockwise, then open it 1/2 turn counterclockwise.
2. Activate the solution and air pressure. Wait a few seconds to purge the air out of the solution tube and for the solution to get to the foamers. Solution pressure must be between 40 - 60 PSI. Air pressure/volume is controlled by the needle valves.
3. If the foam isn't acceptable, turn the needle valve slightly counterclockwise for dryer foam and slightly clockwise for wetter foam. If the needle valve is open too much, the foam will be pushed past the first holes and air only will blow out the first hole or two. If this happens, turn the needle valve slightly clockwise until all the holes are foaming. Once the sticks are foaming properly, no further adjustment should be needed. You are ready for operation.



Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Foam surges or sputters.	1, 2, 3, 4, 5	6, 7, 8
B) Foam too dry.	1	
C) Foam too wet.	1, 3, 4, 5	6, 9

Possible Cause / Solution	
Startup	Maintenance
1. Air volume too high or too low <ul style="list-style-type: none"> Adjust the needle valve very slightly counterclockwise for dryer and clockwise for wetter. VERY little air is needed, if the foam is sputtering you have too much air on them, turn needle valve knob slightly clockwise till the foam sprays consistently. 2. Use of an oiler in the airline will cause poor foam quality <ul style="list-style-type: none"> Use only clean, dry air. 3. Pump Air Pressure too Low <ul style="list-style-type: none"> Increase air pressure. 4. Not enough chemical <ul style="list-style-type: none"> Increase concentration with larger metering tip or in the premixed solution. 5. Discharge tubes kinked or wrong size. <ul style="list-style-type: none"> Straighten the tubes or replace with correct size. 	6. Solution check valve stuck or failed <ul style="list-style-type: none"> Clean or replace. 7. Leak in air or solution connections <ul style="list-style-type: none"> Tighten the connection or cut off 1/2" of tube and reconnect. 8. Needle valve clogged not allowing enough air <ul style="list-style-type: none"> Clean or replace. 9. Chemical build-up may have formed in the foamer body causing low flow <ul style="list-style-type: none"> When there is no flow at all, carefully remove fittings and soak entire foam body in descaling solution. Or replace.

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.

