

LAFFERTY EQUIPMENT MFG., INC.

INSTALLATION / OPERATION INSTRUCTIONS

TWIN LINE ACID UNIBODY SPRAY-ALL AND AIRLESS FOAMER

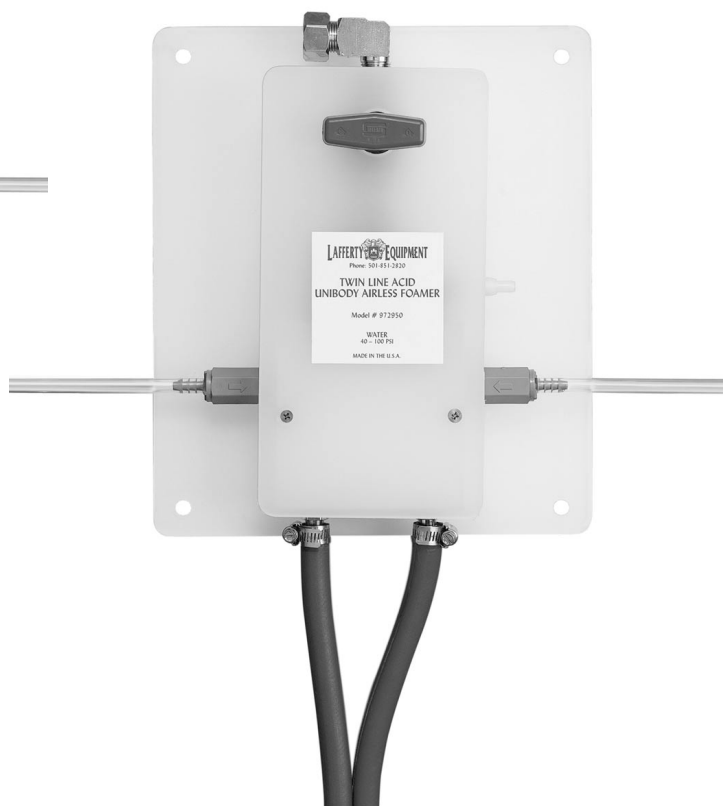
Requirements

40 – 100 PSI Water

1/2" I.D. Twin Line Discharge Hose

Water Temperature

Ambient to 140° F



Model # 972950, Twin Line Acid Unibody Spray-All Complete
(with 1/2" x 50' twin hose, 28" combination wand assembly, nozzle protector, and 2550 PVC nozzle)

Model # 972980, Twin Line Acid Unibody Airless Foamer Complete
(with 1/2" X 50' twin hose, 28" combination wand assembly, and A-25 airless foam wand)

Ask about our Acid LC Foamers

INSTALLATION AND OPERATION INSTRUCTIONS TWIN LINE ACID UNIBODY SPRAY-ALL AND AIRLESS FOAMER

CAUTION: ALWAYS OBSERVE GOOD SAFETY HABITS. WEAR PROTECTIVE CLOTHING, GLOVES, AND EYE WEAR. DIRECT DISCHARGE AWAY FROM YOURSELF AND OTHERS.

TO INSTALL (See Parts Diagram, Facing Page)

1. Mount the unit to a suitable surface.
 2. Unit is supplied with a **water check valve** and a **solution siphon breaker** but **without** a backflow preventer. **To further prevent possible chemical back up into the municipal water system, comply with local plumbing codes and install appropriate backflow preventer.** Then, connect your 40-100 PSI water line to the unit.
 3. Connect the red hose to the acid hose barb and the blue hose to the neutralizer hose barb and secure with the clamps as shown in the diagram. **[Hose must be 1/2" I. D.]**
 4. Connect the red hose to the ball valve on the wand assembly and the blue hose to the swivel. **[Use only the 2550 nozzle or A-25 airless foam wand supplied with unit.]**
 5. *Stapled to these instructions, with a matching color-coded chart, are metering tips which control your chemical to water dilutions. [THIS IS A HIGH CONCENTRATE UNIT. Although metering tips and selection instructions are provided, do not install a tip if you want to achieve the strongest possible chemical concentration.]* If you will be using a metering tip, you will need to know the water pressure and the number of ounces of chemical needed per gallon of water to determine the correct tip color. (See label for manufacturer's recommendation.)
- A. Locate your water pressure in the chart. The number below it is your water flow rate in **gallons per minute**.
 - B. Multiply the **gallons per minute** by the number of **ounces of chemical needed per gallon** of water.
 - C. Match your answer to the nearest number in the tip selection chart. **[The tip selection chart is based on water-thin chemical. Thicker chemicals will require a larger metering tip. If selected metering tip does not produce desired cleaning results, increase tip size until desired chemical ratio and cleaning results are achieved.]**

EXAMPLE OF METERING TIP SELECTION Acid Units at 60 PSI

- 60 PSI = 1.54 GPM
- 4 ounces of chemical per gallon of water
- 1.54 x 4 = 6.16 ounces of chemical
- 6.16 \cong 6.1 for thin chemical (Gray tip)
(thicker chemicals will require a larger tip)

- D. Install selected metering tips into solution check valves. Next, push the chemical tubes over the check valves. Immerse the chemical strainers into your chemical concentrates. [Neutralize side into neutralizing chemical and acid side into acid (see drawing).]

TO APPLY CHEMICAL

1. Make sure the discharge ball valves are closed. Then, completely open the water ball valve.
2. While firmly holding the wand, completely open the acid (red hose) discharge ball valve and begin applying chemical. Apply chemical from the bottom and work up to prevent streaking.
3. When finished, close the acid discharge ball valve. Allow sufficient time for chemical solution to work. Then, open the neutralizer (blue hose) discharge ball valve to begin neutralizing. When finished, close the neutralizer discharge ball valve.
4. When you are finished using your acid unit, return to the unit and close the water ball valve. Re-open the discharge ball valves (one at a time) to relieve pressure on the hose! Then, **close the discharge ball valves to prevent possible chemical siphoning** and store the hose.

PREVENTIVE MAINTENANCE: You may want to periodically check for chemical attack on the discharge ball valve assembly and hose fittings. Replace the ball valve assembly and hose fittings as necessary.

SUGGESTION: In order to prevent excess stress on the unit, secure the discharge hose and the water feed hose to your mounting surface.

CAUTION: SHUT DOWN AFTER EACH USE! NEVER LEAVE UNIT UNATTENDED WITHOUT RELIEVING PRESSURE IN THE HOSE AND CLOSING THE WATER AND DISCHARGE BALL VALVES.

WATER PRESSURE	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI
WATER FLOW RATE	1.34 GPM	1.46 GPM	1.54 GPM	1.59 GPM	1.76 GPM	1.80 GPM	1.91 GPM

The number under each color in the chart below represents the **average ounces of water-thin chemical which will pass through the tip per minute.**

METERING TIP SELECTION IN OUNCES PER MINUTE (AVERAGE)

COLOR	Brown	Clear	Bright Purple	White	Pink	Corn Yellow	Dark Green	Orange	Gray	Light Green	Medium Green	Clear Pink	Yellow Green	Burgundy	Pale Pink	Light Blue	Dark Purple	Navy Blue	Clear Aqua	Black
Thin Chemical	0.84	1.16	1.4	2.0	2.7	3.4	4.0	5.3	6.1	7.0	8.5	9.2	11.2	12.5	12.9	14.2	17.6	21.4	30.2	40.4

TWIN LINE ACID UNIBODY SPRAY-ALL AND AIRLESS FOAMER

QTY.	CALL #	DESCRIPTION	PART #
1	1	ADAPTER, WASHER, GH W/ SCREEN	102050
1	2	ADAPTER, FGH x 1/2" MPT	102027
1	3	ELBOW, ST., 1/2"	257383
1	4	BALL VALVE, PVC, 1/2" FF	413730
1	5	NIPPLE, SS, CLOSE, 1/2"	429742
1	6	CHECK VALVE, POLY W/ HASTELLOY, 1/2" FF	491410
1	7	NIPPLE, POLY, 1/2" x 1 1/2"	429974
1	8	INJECTOR BODY, UNIBODY W25HC/W25HC, 1/2", 5x5	389127
2	9	PLUG, ALLEN HEAD, POLY, 3/8"	615405
1	10	BUSHING, 3/8" x 1/4", POLY	305246
1	11	ELBOW, ST., POLY, 1/4"	257379
1	12	CHECK VALVE, SOLUTION, 1/4", EPDM	491315
1	13	TUBE, CHEMICAL, 1/4" x 1'	474744
2	14	HOSE BARB, 1/2" x 3/8" MPT	119266
2	15	CHECK VALVE, SOLUTION, PVC, 1/4"	491402
1	16	METERING TIPS, SET (20)	443798
1	17	TUBE, CHEMICAL, 1/4" x 20'	474768
2	18	WEIGHT, CHEMICAL TUBE	475100
2	19	STRAINER, CHEMICAL, HASTELLOY, 1/4"	150115
4	not shown	SCREW, # 12 x 3/4"	396488
1	not shown	COVER, POLY, 6" x 12"	220157
1	not shown	BASE, POLY, 12" x 14"	221258
2	20	HOSE CLAMP, 1/2"	134302
1	21	HOSE, TWIN, 1/2" x 50', 3/8" MPT	800250
1	22	SWIVEL, NPB, 3/8" x 3/8"	243347
2	23	BALL VALVE, CPB, 3/8" FMB	413612
1	24	ELBOW, ST., 3/8"	257380
1	25	TEE, 3/8"	677482
1	26	WAND, EXT, 3/8" x 28" MxM	536611
1	27	NOZZLE PROTECTOR, POLY	182006
1	28	NOZZLE, PVC, 1/4" - 2550	181150
1	29	BUSHING, POLY, 1/2" x 3/8"	305250
1	30	WAND, AIRLESS FOAM, A-25 (WHITE)	536625

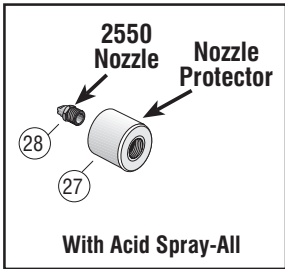
*Optional
For use in instances where certain chemicals attack the standard PVC Solution Check Valve



EPDM Ball Solution Check Valve
Part # 491315

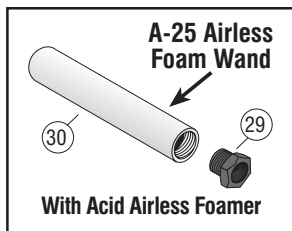


Viton Ball Solution Check Valve
Part # 491311



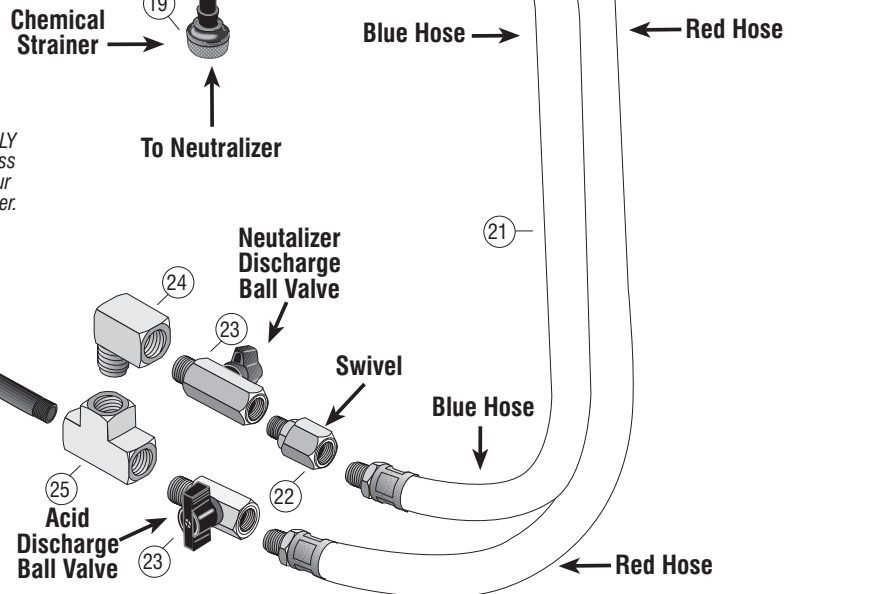
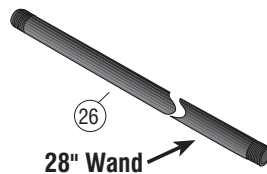
With Acid Spray-All

OR



With Acid Airless Foamer

For proper operation, use ONLY the 2550 nozzle or A-25 airless foam wand supplied with your Acid Spray-All or Airless Foamer.



TROUBLESHOOTING GUIDE

for

TWIN LINE ACID UNIBODY SPRAY-ALL AND AIRLESS FOAMER

PREVENTIVE MAINTENANCE: When the unit will be out of service for extended periods, the risk of residual chemical build-up is increased. To prevent build-up, remove chemical tube from chemical concentrate and place it in warm water. Completely open the water supply valve on the unit, then the chemical ball valve and the discharge ball valve, for approximately 30 seconds to flush. Check and/or clean the chemical strainer periodically; replace if missing (see diagram pg. 3).

PROBLEMS	POSSIBLE CAUSE / SOLUTION													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A) Unit will not draw chemical.	•	•	•	•	•	•	•	•	•	•	•	•		
B) Water flowing into chemical container.								•						
C) Unit draws too much chemical.													•	
D) Spray/Foam does not clean properly.														•

POSSIBLE CAUSES / SOLUTIONS

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Water pressure too low – Increase water pressure if possible. 2. Hose too long or wrong size or kinked; must be 1/2" I.D. – For pressures under 65 PSI, maximum recommended hose length is 50'. For pressures over 65 PSI, 75' is the maximum. Straighten the hose. 3. Nozzle or airless foam wand is wrong size – Must be a 2550 nozzle or A-25 airless foam wand (white). 4. Foam wand screen blocked – Dried chemical build-up may be obstructing screen. Back flush with hot water to remove debris. 5. Water inlet and discharge ball valve not completely open – Completely open the water valve and discharge ball valve. 6. Both discharge ball valves open – Open only <i>one</i> discharge ball valve at a time. 7. Water inlet screen clogged – Disconnect spray-all from water source. Clean or replace screen. Always replace the screen. | <ol style="list-style-type: none"> 8. Solution check valve(s) clogged or failed – Clean or replace solution check valve(s). In cases where chemical may have attacked the standard PVC solution check valve, install optional solution check valve, Viton Ball # 491311 or EPDM Ball # 491315. (See page 3*.) 9. Chemical tube not immersed in chemical or chemical depleted – Immerse tube or replenish. 10. Chemical strainer or metering tip blocked – Clean or replace chemical strainer and/or tip. 11. Chemical tube stretched out where tube slides over check valve or pin hole/cut in chemical tube – Cut approximately 1/2" off end of tube or replace tube. 12. Vacuum leak in chemical pick-up assembly – Tighten the connection(s). 13. Chemical to water ratio too high – Install metering tip. 14. Improper chemical – Ensure product is recommended for application. |
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