

LAFFERTY EQUIPMENT MANUFACTURING, INC.

Installation & Operation Instructions

REQUIREMENTS

Water:

Pressure range..... 400 to 1000 PSI
 Temp. range..... Ambient to 160° F

Compressed Air.....6 SCFM

Nozzle:

Foam..... size 50250 or 00250
 Sanitize (W-10SS).....size 2510
 (W-20SS).....size 2520

Hose:

I.D. (Foam) 1/2"
 (Rinse/Sanitize) 3/8"
 Length 50'

OPTIONS

- 00250 Nozzle # 180153
 (for increased foam throw)

All Stainless Steel Accessories

- Hose Rack # 224150
- Jug Racks
 - 1 Gallon
 - Round # 224200
 - Square # 224205
 - 2 ½ Gallon # 224210
 - 8 ½" x 10 ½"
 (inside dimensions)
 - 5 Gallon # 224215
 - 12" x 12"
 (inside dimensions)

**Model # 918225 – W-10SS Sanitize / Rinse / HPSS Foam
 Hose Drop Station Complete**

**Model # 918227 – W-20SS Sanitize / Rinse / HPSS Foam
 Hose Drop Station Complete**

*(Includes 50' Foam Hose and 50' Rinse/Sanitize Hose
 with Trigger Gun Assembly)*






www.LaffertyEquipment.com

501-851-2820



Safety & Operational Precautions

SAFETY PRECAUTIONS

- **Mounting:** Mount unit above chemical supply level.
- **Personal Safety**
- Wear protective clothing, gloves and eyewear when working with chemicals.   
- Always direct the discharge away from people or electrical devices.
- **Do not** install a ball valve at the end of the foam hose. Do not attempt to cut off flow of foam by restricting or "kinking" foam hose.
- **Turn off** water and air when unit is not in use.

- Follow the chemical manufacturer's safe handling instructions.
- **Regular equipment maintenance** should include checking all hoses, tubes, clamps and connections. (See also, *Preventive Maintenance, page 4.*)

OPERATIONAL PRECAUTIONS

- Do not substitute nozzle or hose sizes. (See "Requirements.") The unit will not work properly with nozzles or hoses of any other size.
- To prevent streaking, apply foam from the bottom and work up.
- Rinse the work surface before foam dries.

TO INSTALL *(Refer to Illustration, Next Page.)*

Read all Safety and Operational Precautions on page 1.

1. **Mount the unit** to a suitable surface above chemical level.
2. **Connect water supply.** (400 PSI water pressure minimum.)
3. **Connect compressed air supply.**
4. **Connect the hose assemblies** as shown in the diagram.
5. **Select and install metering tips into chemical check valves.**
Push the chemical tubes over the check valves and immerse the chemical strainers into your chemical concentrates.
For the strongest possible chemical dilution ratio, do not install a metering tip.

How to Select the Correct Metering Tip

- The dilution ratios provided in the Metering Tip Selection Chart, at right, are based on water-thin chemical with consistent water pressures of 700 PSI. (Fluctuating water pressures alter dilution ratios.) Use the Metering Tip Selection Formula if you have water pressure other than 700 PSI.
- Due to varying chemical viscosities, you may need to increase the metering tip size. (See chemical label for dilution recommendation.)

Water Pressure	HPSS Foam	W-10SS Sanitize	W-20SS Sanitize
PSI	Gallons Per Minute (GPM)		
400	1.30	1.30	3.00
500	1.40	1.40	3.40
600	1.50	1.50	3.70
700	1.60	1.60	4.00
800	1.74	1.74	4.20
900	1.89	1.89	4.65
1000	1.96	1.96	4.80

Metering Tip Selection Formula

$(\text{GPM} \times 128) \div \text{Dilution Ratio} = \text{Oz. per Min.}$

See chart above for GPM and convert to oz. per min. 50:1, 30:1, etc. Match to nearest number in the chart below.

TO OPERATE *Air volume adjustment is the most important element of proper operation. Use the least amount of air volume necessary to achieve good foam quality. Keeping air volume to a minimum will help prevent water pressure fluctuations from affecting foamer performance.*

1. **Set the needle valve** – First, turn the needle valve completely clockwise, then turn it back 1 or 2 complete turns counterclockwise.
2. **Hold the foam wand firmly** and open ball valves in order: (1) water valve, (2) air valve.
3. WAIT SEVERAL SECONDS for foam output to stabilize. To adjust foam quality, **turn the needle valve only slightly** as described below. Wait several seconds after each adjustment.

AIR ADJUSTMENT	WETTER FOAM (Less Air)	DRIER FOAM (More Air)
Needle Valve (Volume)	Turn Clockwise ↻	Turn Counterclockwise ↺

If the flow of foam surges, turn the needle valve *very slightly* clockwise to “fine tune” the air volume. (*Surging indicates too much air or too small of a metering tip. Also see Troubleshooting Guide, page 4.*)

4. When foaming is completed, (1) return to unit and close water ball valve. **Do not install a ball valve at the end of the foam hose. Do not attempt to cut off flow of foam by restricting or "kinking" foam hose.** (2) Close the air ball valve; (3) store the hose on optional hose rack.

Metering Tip Color	Oz. per Min.	Dilution Ratio @ 700 PSI		
		HPSS Foam	W-10SS Sanitize	W-20SS Sanitize
Brown	.84	244:1	244:1	610:1
Clear	1.16	177:1	177:1	441:1
Bright Purple	1.4	146:1	146:1	366:1
White	2.0	102:1	102:1	256:1
Pink	2.7	76:1	76:1	190:1
Corn Yellow	3.4	60:1	60:1	151:1
Dark Green	4.0	51:1	51:1	128:1
Orange	5.3	39:1	39:1	97:1
Gray	6.1	34:1	34:1	84:1
Light Green	7.0	29:1	29:1	73:1
Med. Green	8.5	24:1	24:1	60:1
Clear Pink	9.2	22:1	22:1	56:1
Yellow Green	11.2	18:1	18:1	46:1
Burgundy	12.5	16:1	16:1	41:1
Pale Pink	12.9	15:1	15:1	40:1
Light Blue	14.2	14:1	14:1	36:1
Dark Purple	17.6	12:1	12:1	29:1
Navy Blue	21.4	10:1	10:1	24:1
Clear Aqua	30.2	7:1	7:1	17:1
Black	40.4	—	5.1:1	13:1
No Tip	—	5.8:1	2.7:1	4.5:1

The dilution ratios provided above are approximate values. Your actual dilution ratio may be higher or lower, due to variations in water temperature, air pressure, and chemical viscosity.

TO RINSE

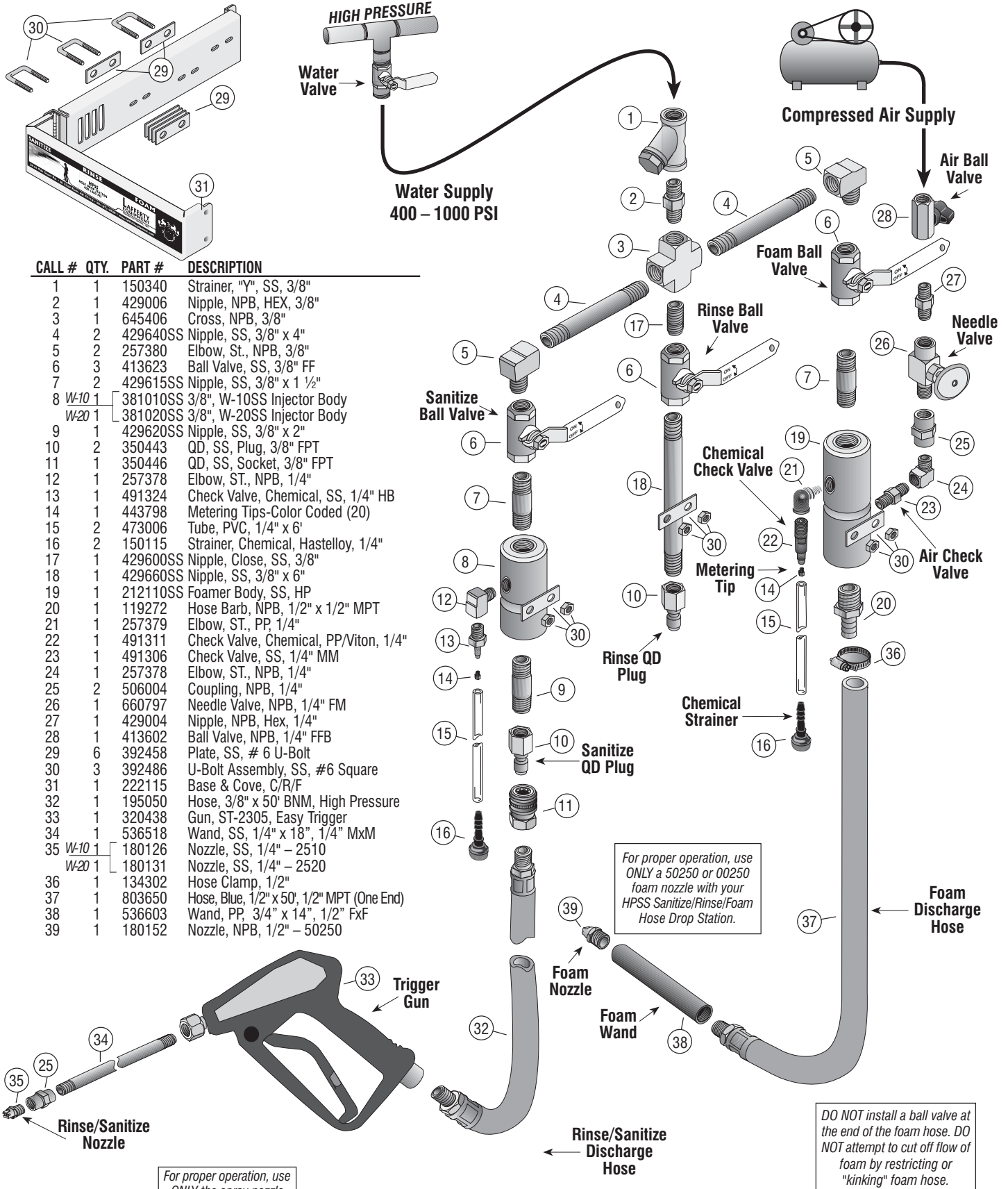
1. **Securely quick connect the rinse/sanitize hose to the rinse QD plug.** With trigger gun assembly in hand, (1) open the rinse ball valve. (2) Move to the area to be rinsed. Then, (3) squeeze the trigger gun handle and begin rinsing.
2. When rinsing is completed, (1) release trigger gun handle; (2) return to the unit and close the rinse ball valve; (3) squeeze trigger gun handle once more to relieve pressure in the hose.

TO SANITIZE

1. **CAUTION: Make sure to relieve pressure in the rinse/sanitize hose by briefly squeezing the trigger gun handle. Then, disconnect the hose from the rinse QD plug. Securely quick connect** the rinse/sanitize hose to the sanitize QD plug. (1) Open the sanitize ball valve. (2) Move to the area to be sanitized. (3) Squeeze trigger gun handle and begin sanitizing.
3. When sanitizing is completed, (1) release trigger gun handle. (2) Return to the unit and close the sanitize ball valve. (3) Squeeze trigger gun handle once more to relieve pressure in hose.
4. If needed, reconnect rinse/sanitize hose to the rinse QD plug and repeat rinse operation. Store hose on optional hose rack.

⚠ Always turn off water and air when unit is not in use.

HPSS SANITIZE / RINSE / FOAM HOSE DROP STATION COMPLETE



CALL #	QTY.	PART #	DESCRIPTION
1	1	150340	Strainer, "Y", SS, 3/8"
2	1	429006	Nipple, NPB, HEX, 3/8"
3	1	645406	Cross, NPB, 3/8"
4	2	429640SS	Nipple, SS, 3/8" x 4"
5	2	257380	Elbow, St., NPB, 3/8"
6	3	413623	Ball Valve, SS, 3/8" FF
7	2	429615SS	Nipple, SS, 3/8" x 1 1/2"
8	W-10	381010SS	3/8", W-10SS Injector Body
	W-20	381020SS	3/8", W-20SS Injector Body
9	1	429620SS	Nipple, SS, 3/8" x 2"
10	2	350443	QD, SS, Plug, 3/8" FPT
11	1	350446	QD, SS, Socket, 3/8" FPT
12	1	257378	Elbow, ST., NPB, 1/4"
13	1	491324	Check Valve, Chemical, SS, 1/4" HB
14	1	443798	Metering Tips-Color Coded (20)
15	2	473006	Tube, PVC, 1/4" x 6"
16	2	150115	Strainer, Chemical, Hastelloy, 1/4"
17	1	429600SS	Nipple, Close, SS, 3/8"
18	1	429660SS	Nipple, SS, 3/8" x 6"
19	1	212110SS	Foamer Body, SS, HP
20	1	119272	Hose Barb, NPB, 1/2" x 1/2" MPT
21	1	257379	Elbow, ST., PP, 1/4"
22	1	491311	Check Valve, Chemical, PP/Viton, 1/4"
23	1	491306	Check Valve, SS, 1/4" MM
24	1	257378	Elbow, ST., NPB, 1/4"
25	2	506004	Coupling, NPB, 1/4"
26	1	660797	Needle Valve, NPB, 1/4" FM
27	1	429004	Nipple, NPB, Hex, 1/4"
28	1	413602	Ball Valve, NPB, 1/4" FFB
29	6	392458	Plate, SS, # 6 U-Bolt
30	3	392486	U-Bolt Assembly, SS, #6 Square
31	1	222115	Base & Cove, C/R/F
32	1	195050	Hose, 3/8" x 50' BNM, High Pressure
33	1	320438	Gun, ST-2305, Easy Trigger
34	1	536518	Wand, SS, 1/4" x 18", 1/4" MxM
35	W-10	180126	Nozzle, SS, 1/4" – 2510
	W-20	180131	Nozzle, SS, 1/4" – 2520
36	1	134302	Hose Clamp, 1/2"
37	1	803650	Hose, Blue, 1/2" x 50', 1/2" MPT (One End)
38	1	536603	Wand, PP, 3/4" x 14", 1/2" FxF
39	1	180152	Nozzle, NPB, 1/2" – 50250

For proper operation, use ONLY the spray nozzle supplied with your HPSS Sanitize/Rinse/Foam Hose Drop Station.

Drawing not "To Scale"

Troubleshooting Guide

Model # 918225 • HPSS SANITIZE / RINSE / FOAM HOSE DROP STATION COMPLETE

PROBLEMS WITH FOAMER	Possible Cause / Solution Categories		
	AIR	WATER / FOAM	CHEMICAL
A) Foamer will not draw chemical.	1, 2	6, 7, 8, 9, 10, 12	13, 14, 15, 16, 17, 18
B) Foam surges and/or hose "bucks".	1, 2, 5	6, 7, 8, 9, 10, 12	14, 15, 16, 17, 18, 20, 21
C) Foam output too wet.	2, 3, 5	6, 7, 8, 9, 10, 12	14, 15, 16, 17, 18, 20, 21
D) Foam output too dry / using too much chemical.	1, 2		19
E) Water flowing into chemical container.		9	13
F) Foam does not clean properly.		11	18, 20, 21
G) Water/chemical backing up into air line.	4	9	

PROBLEMS WITH SANITIZER	Possible Cause / Solution Categories	
	WATER	CHEMICAL
A) Sanitizer will not draw chemical	6, 7, 8, 10, 12	13, 14, 15, 16, 17, 18
B) Water flowing into chemical container.		13
C) Dilution too strong.		19
D) Dilution too weak.	6	18, 20

Possible Cause / Solution		
AIR	WATER / FOAM	CHEMICAL
<p>1. Air volume too high</p> <ul style="list-style-type: none"> Adjust the needle valve <i>slightly</i> clockwise. <p>2. Needle valve clogged or failed</p> <ul style="list-style-type: none"> Clean or replace. <p>3. Air adjustment too low</p> <ul style="list-style-type: none"> Open air ball valve fully. Adjust needle valve <i>slightly</i> counterclockwise. <p>4. Air check valve failed</p> <ul style="list-style-type: none"> Clean or replace. <p>5. Use of an oiler in the airline will cause poor foam quality</p> <ul style="list-style-type: none"> Use only clean, dry air. 	<p>6. Water temperature too high</p> <ul style="list-style-type: none"> Decrease water temperature. <p>7. Foam/sanitize ball valve not completely open</p> <ul style="list-style-type: none"> Completely open the foam/sanitize ball valve. <p>8. "Y" strainer element clogged</p> <ul style="list-style-type: none"> Open cap on "Y" strainer and clean the strainer element. <p>9. Foam hose too long or wrong size or kinked; must be 1/2" I.D.</p> <ul style="list-style-type: none"> Maximum recommended length is 75'. Straighten the hose. <p>10. Nozzle size too small</p> <ul style="list-style-type: none"> Use only a 50250 or 00250 nozzle. For sanitizing, nozzle size must match injector. (<i>See requirements, page 1.</i>) <p>11. Soil has hardened on surface</p> <ul style="list-style-type: none"> Reapplication may be necessary. Always rinse foam <i>before</i> it dries. <p>12. Water scale may have formed in the foamer/injector body causing poor or no chemical pick-up</p> <ul style="list-style-type: none"> To descale, carefully remove fittings and soak entire foamer/injector body in descaling acid. 	<p>13. Chemical check valve stuck or clogged</p> <ul style="list-style-type: none"> Clean or replace. <p>14. Chemical tube not immersed in chemical or chemical depleted</p> <ul style="list-style-type: none"> Immerse tube or replenish. <p>15. Chemical strainer or metering tip blocked</p> <ul style="list-style-type: none"> Clean or replace chemical strainer and/or metering tip. <p>16. Chemical tube stretched out where tube slides over check valve or pin hole/cut in chemical tube (sucking air in)</p> <ul style="list-style-type: none"> Cut off end of tube or replace tube. <p>17. Vacuum leak in chemical pick-up connections</p> <ul style="list-style-type: none"> Tighten the connection(s). <p>18. Chemical build-up may have formed in the foamer/injector body causing poor or no chemical pick-up</p> <ul style="list-style-type: none"> Follow Preventive Maintenance instructions below, using hot water. In extreme cases, carefully remove fittings and soak <i>entire</i> foamer/injector body in descaling acid. <p>19. Metering tip too large</p> <ul style="list-style-type: none"> Install smaller metering tip. <i>See page 2.</i> <p>20. Metering tip too small</p> <ul style="list-style-type: none"> Install larger metering tip. <i>See page 2.</i> <p>21. Improper chemical</p> <ul style="list-style-type: none"> Ensure product is recommended for foaming and/or the application.

PREVENTATIVE MAINTENANCE: When the unit will be out of service for extended periods, remove chemical tubes from chemical concentrates and place in water. Completely open the foam/sanitize ball valves (separately) for a few seconds to flush chemical and help prevent chemical build-up. Check and/or clean chemical strainer; replace if missing.