Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 918104 · W-20SS Sanitize / Rinse / TGSS Foam Hose Drop Station

REQUIREMENTS

Chemical Concentrate

Water

Temperature	up to 180°F
Pressure	400 to 1000 PSI
Flow	8.4 GPM @ 700 PSI
Supply Line	3/8"

Compressed Air	up to 3 CFM

Hose

Sanitize	3/8" ID x 50'
Rinse	3/8" ID x 50'
Foam	3/8" ID x 50'

Nozzle

Sanitize	2520
Rinse	2520
Foam	40100

OPTIONS

Stainless Steel Hose Racks

Large Stainless Steel Hose Rack	# 224150

Stainless Steel Jug Racks Available

Drum & Tote Stick Lengths & Seal Materials

Drum Stick, 33" (Viton or EPDM)	# 491643 / 491643-E
Drum Stick, 48" (Viton or EPDM)	# 491648 / 491648-E
Drum Stick, 54" (Viton or EPDM)	# 491645 / 491645-E
Tote Stick, 33" (Viton or EPDM)	# 491653 / 491653-E
Tote Stick, 48" (Viton or EPDM)	# 491654 / 491654-E
Tote Stick, 54" (Viton or EPDM)	# 491656 / 491656-E

Alternate Check Valves - EPDM Standard

Check Valve, Chemical, SS, Viton, 1/4"	# 491324-V
Check Valve, Air, SS, 1/4" MM (Viton / Hast)	# 491306



Lafferty EQUIPMENT MANUFACTURING LLC®

CFS TECHNOLOGIES

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WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The W-20SS Sanitize / Rinse / TGSS Foam Hose Drop Station is a combination trigger gun applicator for applying one chemical as foam, another as a sanitizing spray, and for rinsing. This stainless steel venturi injection system uses high water pressure (400 - 1000 PSI) to draw and blend chemical concentrates into the water streams to create accurately diluted solutions using precision metering tips to control chemical usage. Rich, clinging foam is created by injecting compressed air into the foaming solution to greatly increase volume and coverage ability. The foaming solution then flows through the foam hose, trigger gun, and fan nozzle and is projected at distances up to 10 feet. Rinse and sanitize using the second hose, trigger gun, and fan nozzle.

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.

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Mount the unit to a suitable surface above the chemical supply to prevent siphoning.
2. Quick connect the foam hose to the foam plug and close the inlet ball valves. This hose will only fit the foam plug.
3. Quick connect the other discharge hose to the rinse plug and close the inlet ball valves. This hose and gun is used for both rinse and sanitize.
4. Connect water supply. Flush any new plumbing of debris before connecting.
5. Connect compressed air. If piping is older and has known contaminants, install a filter.

Set the chemical dilution ratio by threading one of the color coded metering tips into each chemical check valve. See chemical labels for dilution ratio recommendation or consult your chemical supplier.

- For the strongest dilution ratio do NOT install a colored metering tip.
- 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.
- Application results will ultimately determine final tip color.
- Select the tip color that is closest to your desired chemical strength and thread it into the tip holder. **DO NOT OVER-TIGHTEN.**
- Push the chemical tube over the check valve barb and place the suction tube in the chemical concentrate.
- If necessary, cut suction tube(s) to length before attaching suction strainer.

TO OPERATE

Always make sure the discharge is pointed in a safe direction before turning inlet valve on. Trigger can be released at any time during operation but should not be left unattended for long periods of time without closing inlet ball valve.

TO FOAM

1. Make final metering tip adjustments based on application results.
2. With gun in hand open the water ball valve, and the air ball valve.
3. Pull the trigger on the gun
    - Wait a few seconds and observe foam consistency.
    - Use the least amount of air needed to achieve good foam quality to prevent water pressure fluctuations from affecting performance. Air pressure must be kept lower than water pressure.
    - To adjust the foam consistency pull out on the air regulator knob, turn slightly clockwise for dryer foam and counterclockwise for wetter foam. Wait a few seconds to see each adjustment.
    - Medium wet foam will give the best cleaning results! Dry foam will NOT clean as well!
    - You may also have to try different sized metering tips and air settings until foam consistency and cleaning results are acceptable. Once this is set and desired foam consistency is achieved push lock the knob. you are ready to start application.
4. When foaming is completed, release the trigger, return to the unit and close the water and air ball valves. Pull the trigger to relieve pressure in the hose.
5. Rinse before the foam dries.

TO RINSE

1. Pull the trigger to relieve pressure in hose.
2. Securely quick connect the hose to the quick disconnect discharge plug.
3. Open the inlet ball valve then pull the trigger to begin rinsing.
4. When application is completed, release trigger and return to the unit and close the inlet ball valve. Pull the trigger to relieve pressure in hose.

TO SANITIZE

1. Make final metering tip adjustments based on application results.
2. Pull the trigger to relieve pressure in hose.
3. Securely quick connect the hose to the quick disconnect discharge plug.
4. Open the inlet ball valve then pull the trigger to begin application.
5. When application is completed, release trigger and return to the unit and close the inlet ball valve. Pull the trigger to relieve pressure in hose.
6. Rinse the work surface, if applicable.

METERING TIP SELECTION

METERING TIP COLOR	OZ/MIN	DILUTION RATIO @ 700 PSI		
		SANITIZE	RINSE	FOAM
Brown	0.56	711:1	—	203:1
Clear	0.88	452:1	—	129:1
Bright Purple	1.38	288:1	—	82:1
White	2.15	185:1	—	53:1
Pink	2.93	136:1	—	39:1
Corn Yellow	3.84	104:1	—	30:1
Dark Green	4.88	82:1	—	23:1
Orange	5.77	69:1	—	20:1
Gray	6.01	66:1	—	19:1
Light Green	7.01	57:1	—	16:1
Med. Green	8.06	49:1	—	14:1
Clear Pink	9.43	42:1	—	12:1
Yellow Green	11.50	35:1	—	10:1
Burgundy	11.93	33:1	—	10:1
Pale Pink	13.87	29:1	—	8:1
Light Blue	15.14	26:1	—	7:1
Dark Purple	17.88	22:1	—	6:1
Navy Blue	25.36	16:1	—	4:1
Clear Aqua	28.60	14:1	—	4:1
Black	50.00	8:1	—	—
No Tip Ratio Up To:		7:1	—	3.7:1

The dilution ratios above are approximate values. Due to chemical viscosity, actual dilution ratios may vary.

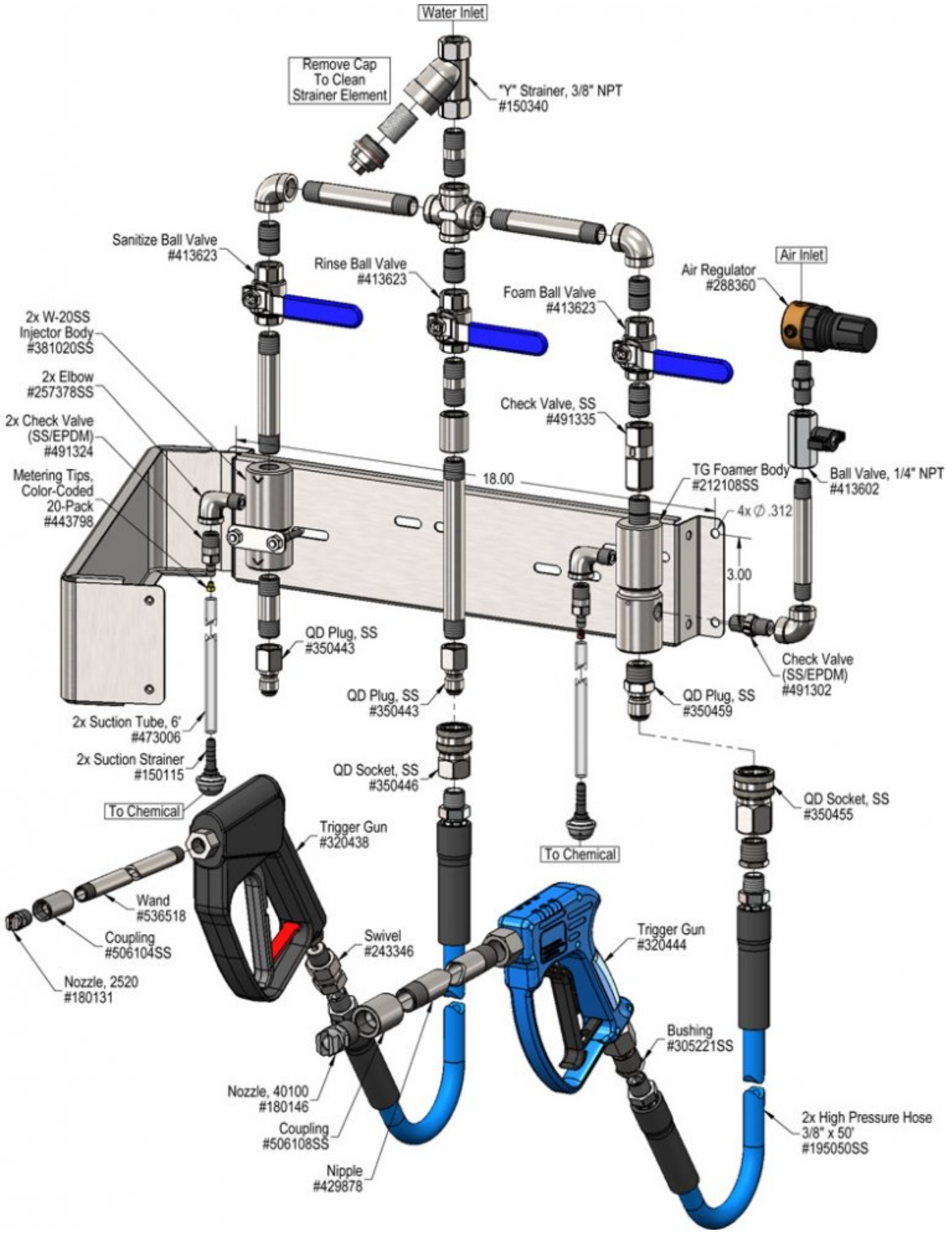
FORMULA

GPM × 128 ÷ Desired Dilution Ratio = oz/min

- *See Unit Flow Rates chart for GPM*
- *Use 20 for 20:1 dilution ratio, 30 for 30:1, etc.*
- *Match calculated ounces per minute (oz/min) to nearest oz/min in Metering Tip Selection chart.*

UNIT FLOW RATES

PSI	GPM		
	SANITIZE	RINSE	FOAM
400	2.35	6.32	0.67
500	2.63	7.07	0.75
600	2.88	7.74	0.82
700	3.11	8.36	0.89
800	3.32	8.94	0.95
900	3.53	9.48	1.01
1000	3.72	9.99	1.06


Water Inlet
Remove Cap To Clean Strainer Element
"Y" Strainer, 3/8" NPT #150340
Sanitize Ball Valve #413623
Rinse Ball Valve #413623
Foam Ball Valve #413623
Air Inlet
Air Regulator #288360
2x W-20SS Injector Body #381020SS
2x Elbow #257378SS
2x Check Valve (SS/EPDM) #491324
Metering Tips, Color-Coded 20-Pack #443798
Check Valve, SS #491335
18.00
TG Foamer Body #212108SS
Ball Valve, 1/4" NPT #413602
4x Ø .312
3.00
QD Plug, SS #350443
QD Plug, SS #350443
QD Plug, SS #350459
Check Valve (SS/EPDM) #491302
2x Suction Tube, 6' #473006
2x Suction Strainer #150115
To Chemical
QD Socket, SS #350446
QD Socket, SS #350455
Trigger Gun #320438
To Chemical
Wand #536518
Coupling #506104SS
Nozzle, 2520 #180131
Swivel #243346
Trigger Gun #320444
Bushing #305221SS
Nozzle, 40100 #180146
Coupling #506108SS
Nipple #429878
2x High Pressure Hose 3/8" x 50' #195050SS

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.	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
H) Air or chemical solution backing up into water line.		20

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Sanitizer will not draw chemical.	3, 7, 8, 9, 10	12, 13, 14, 15, 18, 19
B) Dilution is too strong.	5	
C) Dilution is too weak.	4	
D) Water backing up into chemical container.		18

Possible Cause / Solution

Startup

1. **Air pressure too high**
   - Adjust the air regulator slowly counterclockwise until output stabilizes.
2. **Use of an oiler in the airline will cause poor foam quality**
   - Use only clean, dry air.
3. **Inlet and/or discharge ball valves not completely open**
   - Completely open the inlet and (if applicable) discharge ball valves.
4. **Not enough chemical - metering tip too small**
   - Install larger metering tip.
5. **No metering tip installed or metering tip too large**
   - Install smaller metering tip.
6. **Improper chemical**
   - Ensure product is recommended for foaming and the application.
7. **Chemical tube not immersed in chemical or depleted**
   - Immerse tube or replenish.
8. **Discharge hose too long or wrong size or kinked**
   - Straighten the hose or replace hose with correct size and length.
9. **Nozzle size too small**
   - Replace nozzle with correct size.
10. **Water pressure or water volume too low/inlet piping too small causing poor chemical pick up**
    - Increase water pressure or water volume.
11. **Soil has hardened on surface, rinse foam before it dries**
    - Reapplication may be necessary.

Maintenance

12. **Water strainer element clogged or inlet orifice clogged**
    - Clean or replace strainer element; check/clean inlet orifice for obstructions. DO NOT DRILL OUT.
13. **Chemical strainer or metering tip partially blocked**
    - Clean or replace chemical strainer and/or metering tip.
14. **Chemical tube stretched out or pin hole/cut in tube**
    - Cut off end of tube or replace tube.
15. **Vacuum leak in chemical pick-up connections**
    - Tighten the connection.
16. **Air regulator failed**
    - Clean or replace.
17. **Air check valve failed**
    - Clean or replace.
18. **Chemical check valve stuck or failed**
    - Clean or replace.
19. **Hard water scale or chemical build-up may have formed in the body causing poor or no chemical pick-up**
    - Follow Preventive Maintenance instructions below, using hot water or descaling acid. When there is no draw at all, carefully remove fittings and soak entire body in descaling acid.
20. **No backflow preventer installed and/or inlet ball valve left on when not in use**
    - Install appropriate backflow preventer into water line.

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.