

Lafferty Equipment Manufacturing, LLC Installation & Operation Instructions

Model # 918227 · W-20SS Sanitize / Rinse / HPSS 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 5 CFM |
|-----------------------|-------------|

Hose

| | |
|----------|---------------|
| Sanitize | 3/8" ID x 50' |
| Rinse | 3/8" ID x 50' |
| Foam | 1/2" ID x 50' |

Nozzle

| | |
|----------|-------|
| Sanitize | 2520 |
| Rinse | 2520 |
| Foam | 50250 |

OPTIONS

Stainless Steel Hose Racks

| | |
|---------------------------------|----------|
| Large Stainless Steel Hose Rack | # 224150 |
|---------------------------------|----------|

Stainless Steel Jug Racks Available

Optional Zero Degree Foam Nozzle (For Increased Range)

| | |
|---------------------------|----------|
| Nozzle, NPB, 1/2" - 00200 | # 180144 |
|---------------------------|----------|

Alternate Check Valve - EPDM Standard

| | |
|--|------------|
| Check Valve, Chemical, SS, Viton, 1/4" | # 491324-V |
|--|------------|

Alternate Check Valves - EPDM Standard

| | |
|---------------------------------------|----------|
| Check Valve, Chemical, PP/Viton, 1/4" | # 491315 |
| Check Valve, Air, SS/Viton, 1/4" | # 491306 |



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



OVERVIEW

The W-20SS Sanitize / Rinse / HPSS Foam Hose Drop Station is a combination applicator for applying one chemical as foam at 2 GPM @ 700 PSI, 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 and is projected through the fan nozzle at distances up to 13 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.
- Do not put a discharge ball valve on this unit or kink the hose to stop the flow of foam.

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Mount the unit to a suitable surface above the chemical supply to prevent siphoning.
2. Attach the foam hose assembly as shown in the drawing.
3. Quick connect the high pressure 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 FOAM

Always make sure the wand is in hand and pointed in a safe direction before turning water and air on. DO NOT kink the hose to stop foam flow, return to the unit and close the water and air ball valves.

1. Final chemical dilution and air adjustments will now have to be made.
2. With wand in hand open the water ball valve, and the air ball valve.
 - Wait a few seconds and observe foam consistency.
 - To adjust the foam consistency turn the needle valve knob slightly counterclockwise for dryer foam and clockwise for wetter foam.
 - Medium wet foam will give the best cleaning results! Very 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 you are ready to start application.
3. When foaming is completed return to the unit and close the water and air ball valves. Do NOT kink the hose to stop foam flow. Rinse the work surface before 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 | — | 454:1 |
| Clear | 0.88 | 452:1 | — | 289:1 |
| Bright Purple | 1.38 | 288:1 | — | 184:1 |
| White | 2.15 | 185:1 | — | 118:1 |
| Pink | 2.93 | 136:1 | — | 87:1 |
| Corn Yellow | 3.84 | 104:1 | — | 66:1 |
| Dark Green | 4.88 | 82:1 | — | 52:1 |
| Orange | 5.77 | 69:1 | — | 44:1 |
| Gray | 6.01 | 66:1 | — | 42:1 |
| Light Green | 7.01 | 57:1 | — | 36:1 |
| Med. Green | 8.06 | 49:1 | — | 32:1 |
| Clear Pink | 9.43 | 42:1 | — | 27:1 |
| Yellow Green | 11.50 | 35:1 | — | 22:1 |
| Burgundy | 11.93 | 33:1 | — | 21:1 |
| Pale Pink | 13.87 | 29:1 | — | 18:1 |
| Light Blue | 15.14 | 26:1 | — | 17:1 |
| Dark Purple | 17.88 | 22:1 | — | 14:1 |
| Navy Blue | 25.36 | 16:1 | — | 10:1 |
| Clear Aqua | 28.60 | 14:1 | — | 9:1 |
| Black | 50.00 | 8:1 | — | — |
| No Tip Ratio Up To: | | 7:1 | — | 6:1 |

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

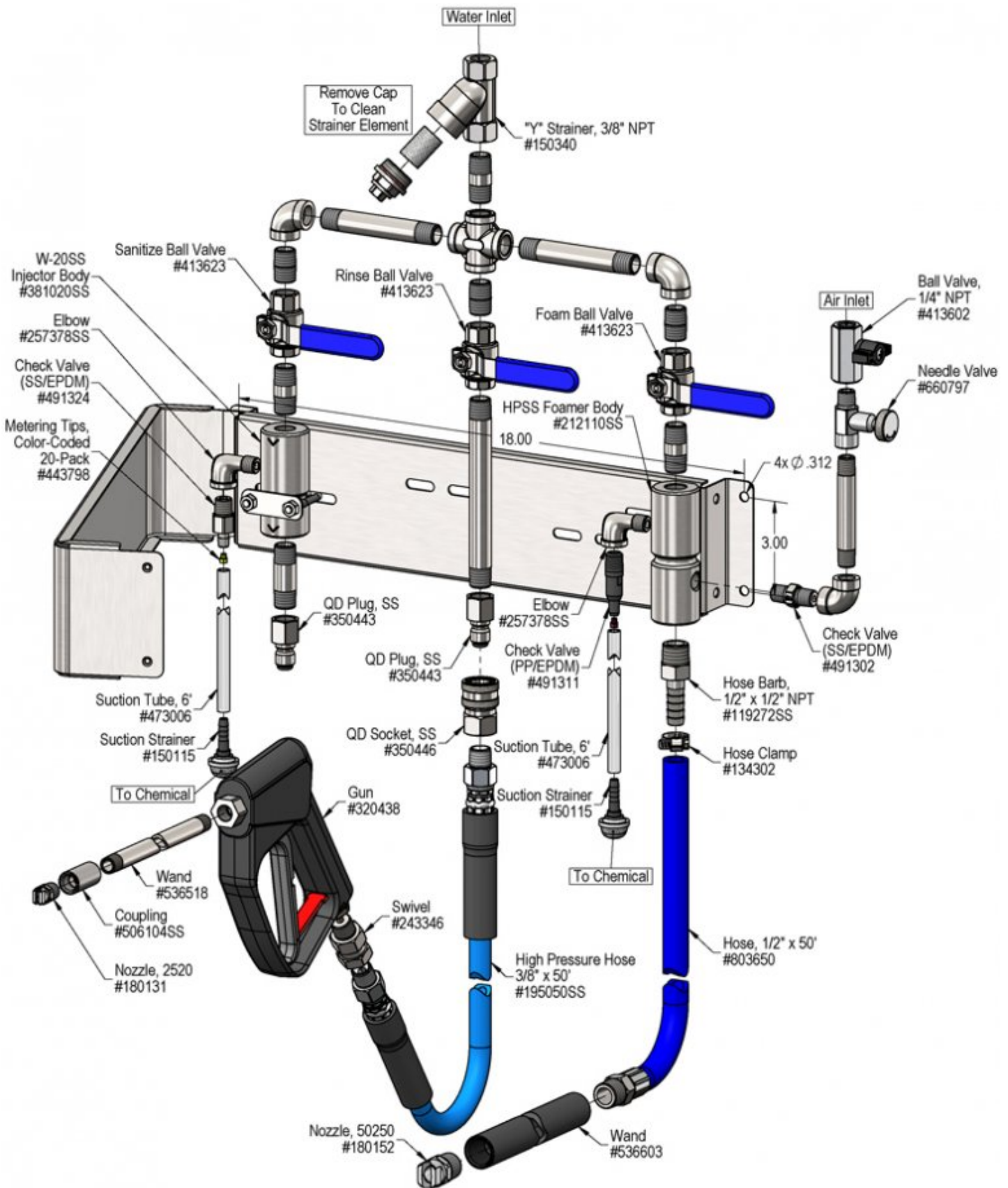
FORMULA

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 | 1.50 |
| 500 | 2.63 | 7.07 | 1.68 |
| 600 | 2.88 | 7.74 | 1.84 |
| 700 | 3.11 | 8.36 | 1.98 |
| 800 | 3.32 | 8.94 | 2.12 |
| 900 | 3.53 | 9.48 | 2.25 |
| 1000 | 3.72 | 9.99 | 2.37 |



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, 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 |

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

| Possible Cause / Solution | |
|---|--|
| Startup | Maintenance |
| 1. Air volume too high <ul style="list-style-type: none"> ◦ Turn the air needle valve knob slowly clockwise until output stabilizes. | 12. Chemical check valve stuck or failed <ul style="list-style-type: none"> ◦ Clean or replace. |
| 2. Use of an oiler in the airline will cause poor foam quality <ul style="list-style-type: none"> ◦ Use only clean, dry air. | 13. Chemical strainer or metering tip partially blocked <ul style="list-style-type: none"> ◦ Clean or replace chemical strainer and/or metering tip. |
| 3. Inlet ball valve ball valve not completely open <ul style="list-style-type: none"> ◦ Completely open the inlet ball valve. | 14. Chemical tube stretched out or pin hole / cut in tube <ul style="list-style-type: none"> ◦ Cut off end of tube or replace tube. |
| 4. Not enough chemical - metering tip too small <ul style="list-style-type: none"> ◦ Install larger metering tip. | 15. Vacuum leak in chemical pick-up connections <ul style="list-style-type: none"> ◦ Tighten the connection(s). |
| 5. No metering tip installed or metering tip too large <ul style="list-style-type: none"> ◦ Install smaller metering tip. | 16. Air needle valve clogged not allowing enough air <ul style="list-style-type: none"> ◦ Clean or replace. |
| 6. Improper chemical <ul style="list-style-type: none"> ◦ Ensure product is recommended for foaming and/or the application. | 17. Air check valve failed <ul style="list-style-type: none"> ◦ Replace. |
| 7. Chemical tube not immersed or chemical depleted <ul style="list-style-type: none"> ◦ Immerse tube or replenish. | 18. Water strainer element clogged or foamer/sanitizer inlet orifice clogged <ul style="list-style-type: none"> ◦ Clean or replace strainer element. Check / clean inlet orifice for obstructions. DO NOT DRILL OUT. |
| 8. Discharge hose too long or wrong size or kinked <ul style="list-style-type: none"> ◦ Straighten the hose - Replace hose with correct size. | 19. Chemical build-up may have formed in the foamer / injector body causing poor or no chemical pick-up <ul style="list-style-type: none"> ◦ Follow Preventive Maintenance instructions below, using hot water and / or descaling acid. When there is no draw at all carefully remove fittings and soak entire foamer / injector body in descaling acid. |
| 9. Nozzle size too small <ul style="list-style-type: none"> ◦ Replace nozzle with correct size. | |
| 10. Water pressure or volume too low / inlet piping too small <ul style="list-style-type: none"> ◦ Increase water pressure or water volume. | |
| 11. Soil has hardened on surface; rinse foam before it dries <ul style="list-style-type: none"> ◦ Reapplication may be necessary. | |

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.

