# Lafferty Equipment Manufacturing, LLC
# Installation & Operation Instructions

## Model # 917942 · Portable W-20SS Sanitize / A-20SS Airless Foam Hose Drop Station

## REQUIREMENTS

**Chemical Concentrate**

**Water**

| | |
|---|---|
| Temperature | up to 180°F |
| Pressure | 400 to 1000 PSI |
| Flow | 3.11 GPM @ 700 PSI |
| Supply Line | 3/8" |

**Hose**

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

**Nozzle**

| | |
|---|---|
| Sanitize | 2520 |
| Foam | A-20 Airless Foam Wand |

## OPTIONS

**Square Jug Rack Conversion**

Specify Round or Square Jug Racks at time of order

**Alternate Check Valve - EPDM Standard**

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


Lafferty EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

www.laffertyequipment.com
501-851-2820

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

## OVERVIEW

The Portable W-20SS Sanitize / A-20SS Airless Foam Hose Drop Station is a combination system for applying one chemical as foam and another as a sanitizing spray, without compressed air. Featuring an all stainless steel cart assembly, 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. Precision metering tips are used to control chemical usage. Foaming chemical solution flows through the foam hose and trigger gun to the "airless" foam wand which draws in atmospheric air to create and project wet, clinging foam at distances up to 12 feet. Sanitizer solution, or any other chemical, is projected using the 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. Place a container of chemical concentrate in the jug rack(s).
2. Connect the hose(s) as shown in the diagram.
3. To prevent blocking the small water jets in the injector flush any new plumbing of debris before connecting water.
4. Connect water supply. If water piping is older or has known contaminants, install a water 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

1. Make final metering tip adjustments based on application results.
2. Open the inlet ball valve then pull the trigger to begin application.
3. When application is completed, release the trigger, return to the unit and close the inlet ball valve.
4. Squeeze the trigger to relieve pressure in hose. Rinse the work surface before solution dries.

**TO SANITIZE**

1. Make final metering tip adjustments based on application results.
2. With trigger gun in hand open the inlet ball valve.
3. Pull the trigger and begin application.
4. When application is completed, release the trigger then close the inlet ball valve.
5. Briefly squeeze the trigger to relieve pressure in hose.

### METERING TIP SELECTION

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

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

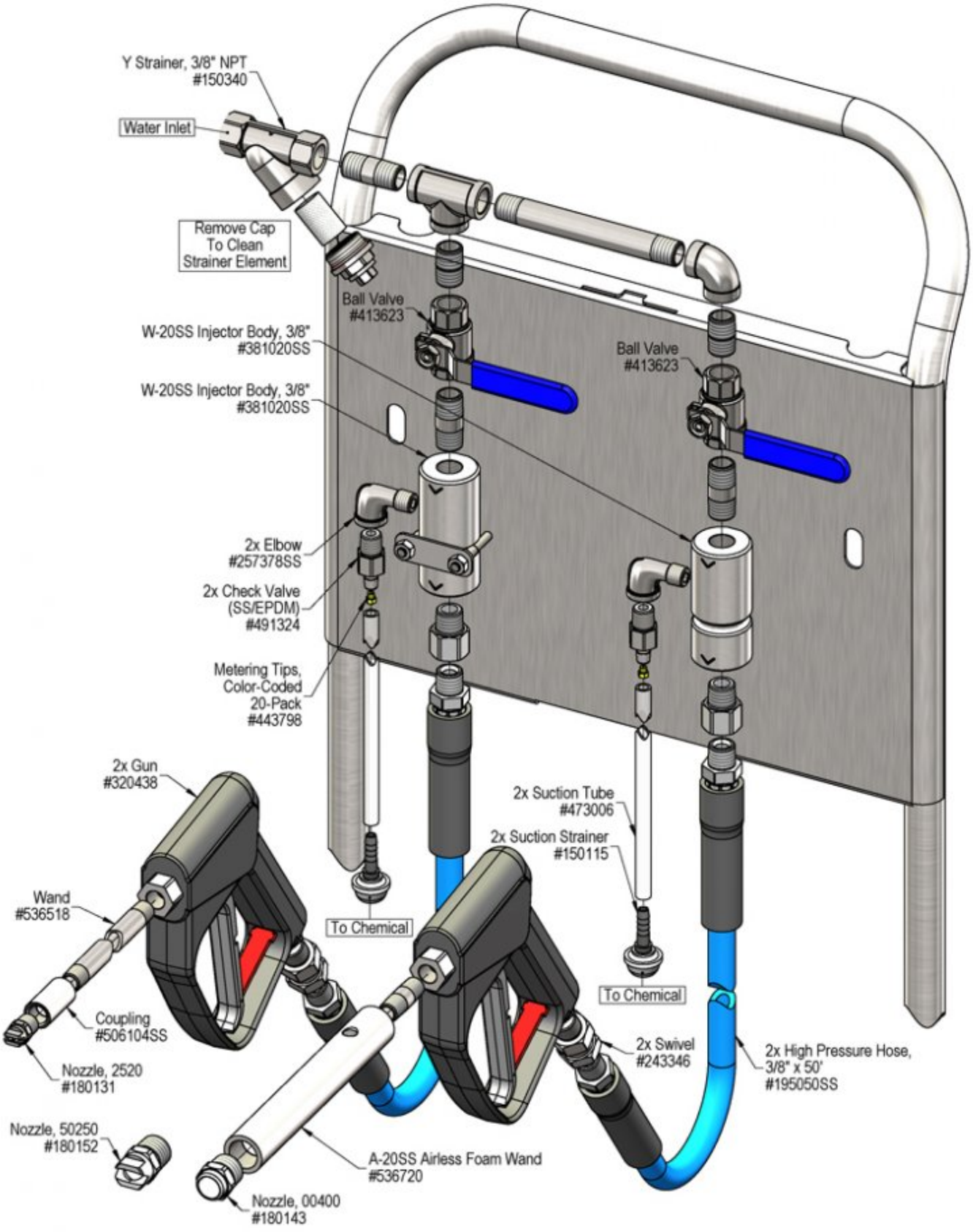
**FORMULA**

**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 | FOAM |
| 400 | 2.35 | 2.35 |
| 500 | 2.63 | 2.63 |
| 600 | 2.88 | 2.88 |
| 700 | 3.11 | 3.11 |
| 800 | 3.32 | 3.32 |
| 900 | 3.53 | 3.53 |
| 1000 | 3.72 | 3.72 |


Y Strainer, 3/8" NPT
#150340
Water Inlet
Remove Cap
To Clean
Strainer Element
Ball Valve
#413623
W-20SS Injector Body, 3/8"
#381020SS
W-20SS Injector Body, 3/8"
#381020SS
Ball Valve
#413623
2x Elbow
#257378SS
2x Check Valve
(SS/EPDM)
#491324
Metering Tips,
Color-Coded
20-Pack
#443798
2x Gun
#320438
2x Suction Tube
#473006
2x Suction Strainer
#150115
Wand
#536518
To Chemical
To Chemical
Coupling
#506104SS
2x Swivel
#243346
2x High Pressure Hose,
3/8" x 50'
#195050SS
Nozzle, 2520
#180131
Nozzle, 50250
#180152
A-20SS Airless Foam Wand
#536720
Nozzle, 00400
#180143

# Troubleshooting Guide

| Problem | Possible Cause / Solution | |
|---|---|---|
| | Startup | Maintenance |
| A) Foamer will not draw chemical.<br>B) Foam does not clean / perform.<br>C) Water back flowing into chemical container | 1, 2, 4, 5<br>1, 2, 6, 7<br>9 | 9, 10, 11, 12, 13, 14, 15 |

| Problem | Possible Cause / Solution | |
|---|---|---|
| | Startup | Maintenance |
| A) Sanitizer will not draw chemical.<br>B) Using too much chemical.<br>C) Water back flowing into chemical | 1, 2, 3, 4, 5,<br>8<br>9 | 9, 10, 12, 13, 14, 15 |

## Possible Cause / Solution

### Startup

1. **Water pressure too low**
   - Increase water pressure. (See Requirements)
2. **Inlet ball valve not completely open**
   - Completely open the valve.
3. **Nozzle wrong size, too small**
   - See requirements.
4. **Discharge too long, wrong size or kinked**
   - Straighten hose, see requirements.
5. **Chemical tube not immersed in chemical or chemical depleted**
   - Immerse or replenish chemical
6. **Dilution too weak**
   - Install larger metering tip.
7. **Improper chemical**
   - Ensure product is recommended for foaming and/or the application.
8. **Dilution too strong even with smallest metering tip**
   - Some weak dilutions at lower water pressures are impossible to achieve with a single metering tip. Pre-dilute your chemical until desired dilution ratio is achieved. Or order 491307-1/4" Inline Dual Metering Tip Holder.

### Maintenance

9. **Chemical check valve stuck or clogged**
   - Clean or replace.
10. **Water "Y" strainer screen clogged**
    - Clean screen or replace.
11. **Airless Foam Wand screen blocked**
    - Dried chemical build-up may be obstructing flow through the screen. Remove fittings and soak the entire wand in de-scaling acid.
12. **Metering tip blocked**
    - Clean or replace metering tip.
13. **Chemical tube stretched out where tube slides over check valve or pin hole/cut in chemical tube (sucking air in)**
    - Cut off end of tube or replace tube.
14. **Vacuum leak in chemical pick-up connection**
    - Tighten the connection.
15. **Chemical build-up or scale may have formed in the body causing poor or no chemical pick-up**
    - Remove fittings and soak entire body in de-scaling acid. Replace fittings being careful not to cross thread or over tighten.

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.