Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 975911 · Portable 5 Gallon Conveyor-Mate™ 315 Sanitizer System

REQUIREMENTS

Chemical Concentrate

Water

Temperature	up to 160°F
Pressure	35 to 125 PSI
Flow	4.0 GPM @ 40 PSI
Supply Line	3/4"
Nozzle	100 Spreader
Hose	1/2" ID x 6'

Requirements shown are per spray bar

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

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WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The 315 Conveyor-Mate™ is a portable sanitizing system designed specifically for Clean-In-Place spraying on to conveyor belts. This venturi dilution system uses city water pressure (35 - 125 PSI) to accurately draw and blend chemical concentrate into the water stream. The fully adjustable spray arm extends vertically and horizontally to virtually any position. The unique stainless steel Spreader Nozzle™ creates a wide spray pattern that can be adjusted and rotated to ensure optimal coverage at any angle.

SAFETY & OPERATIONAL PRECAUTIONS

- **When connecting to a potable water supply follow all local codes for backflow prevention.**
- 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.
- NEVER mix chemicals without first consulting chemical manufacturer.

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Place a container of chemical concentrate in the jug rack.
2. See below for metering tip settings.
3. Push Conveyor-Mate to a suitable location for initial testing and lock front wheels.
4. Connect water supply as shown in the diagram.
5. Position spray arm(s).
    - Loosen L-bolts on arm(s) and lock at the desired horizontal and vertical positions for testing. Only adjust one position at a time.
    - Connect the hoses to the spray arm(s) as shown.

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

1. Completely open water ball valve(s).

NOTE: 2-arm units have 2 injector bodies/arms/nozzles with independent activation ball valves. Installation and operation for 1 and 2-arm models is fundamentally the same.

2. Wait a few seconds for output to stabilize.
3. Make final metering tip adjustments based on application results. You are ready to start application.
4. Reposition cart beside the conveyor, lock front wheels, and adjust spray arms to position nozzles along center of belt.
5. Adjust position and orientation of spray arms and nozzles to achieve desired coverage.
    - NOTE: Coverage width increases with distance from object being sprayed.
        - 28" distance = 48" coverage
    - TIP: If unable to achieve the desired distance from belt due to space constraints, angle the arm so the nozzle projects outward instead of straight down. Nozzles can be rotated if they cannot be positioned over belt center.
6. When spraying is complete:
    - Close water ball valves and allow hoses to empty.
    - Disconnect hoses from spray arms.
    - Collapse spray arms and disconnect water supply. The unit is now ready to be moved.

METERING TIP SELECTION

METERING TIP COLOR	OZ/MIN	DILUTION RATIO @ 40 PSI
Brown	0.56	914:1
Clear	0.88	582:1
Bright Purple	1.38	371:1
White	2.15	238:1
Pink	2.93	175:1
Corn Yellow	3.84	133:1
Dark Green	4.88	105:1
Orange	5.77	89:1
Gray	6.01	85:1
Light Green	7.01	73:1
Med. Green	8.06	64:1
Clear Pink	9.43	54:1
Yellow Green	11.50	45:1
Burgundy	11.93	43:1
Pale Pink	13.87	37:1
Light Blue	15.14	34:1
Dark Purple	17.88	29:1
Navy Blue	25.36	20:1
Clear Aqua	28.60	18:1
Black	50.00	10:1
No Tip Ratio Up To:		9:1

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

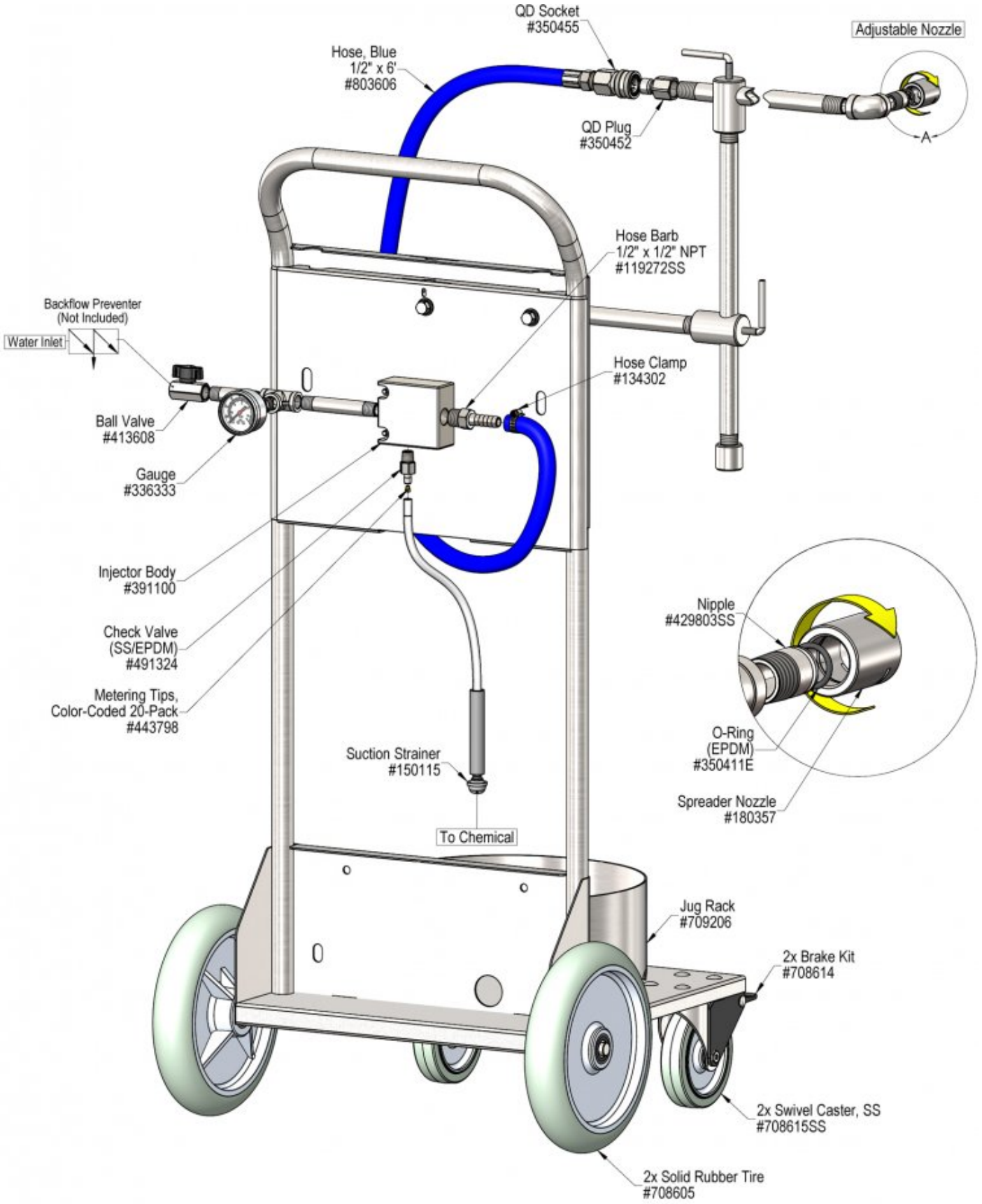
FORMULA

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
35	3.74
40	4.00
50	4.47
60	4.90
70	5.29
80	5.66
90	6.00
100	6.32
110	6.63
120	6.93
125	7.07


QD Socket
#350455
Adjustable Nozzle
Hose, Blue
1/2" x 6'
#803606
QD Plug
#350452
A
Hose Barb
1/2" x 1/2" NPT
#119272SS
Backflow Preventer
(Not Included)
Water Inlet
Hose Clamp
#134302
Ball Valve
#413608
Gauge
#336333
Injector Body
#391100
Check Valve
(SS/EPDM)
#491324
Metering Tips,
Color-Coded 20-Pack
#443798
Nipple
#429803SS
O-Ring
(EPDM)
#350411E
Spreader Nozzle
#180357
Suction Strainer
#150115
To Chemical
Jug Rack
#709206
2x Brake Kit
#708614
2x Swivel Caster, SS
#708615SS
2x Solid Rubber Tire
#708605

Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Unit will not draw chemical	1, 4, 5, 6, 7	8, 9, 10, 11, 12, 13, 14
B) Dilution too weak	2, 4, 5	8, 9, 10, 11, 12, 13, 14
C) Dilution too strong	3	14
D) Water backing up into chemical container		8

Possible Cause / Solution

Startup

1. **Inlet or discharge ball valves not completely open**
   - Completely open both ball valves.
2. **Not enough chemical - metering tip too small**
   - Install larger metering tip.
3. **No metering tip installed or metering tip too large**
   - Install smaller metering tip.
4. **Chemical tube not immersed in chemical or chemical depleted**
   - Immerse tube or replenish.
5. **Discharge hose too long for available water pressure, kinked or wrong size**
   - Straighten the hose or replace hose.
6. **Nozzle size too small (SEE REQUIREMENTS)**
7. **Water pressure or water volume too low/inlet piping too small causing poor chemical pick up**
   - Increase water pressure or water volume

Maintenance

8. **Chemical check valve stuck or failed**
   - Clean or replace.
9. **Chemical strainer or metering tip partially blocked**
   - Clean or replace chemical strainer and/or metering tip.
10. **Chemical tube stretched out or pin hole/cut in chemical tube**
    - Cut off end of tube or replace tube.
11. **Vacuum leak in chemical pick-up connections**
    - Tighten the connection.
12. **Water strainer clogged or missing/injector inlet orifice clogged**
    - Clean or replace strainer; check/clean inlet orifice for obstructions. DO NOT DRILL OUT.
13. **Hard water scale or chemical build-up may have formed in the injector body causing poor or no chemical pick-up**
    - Follow Preventive Maintenance instructions below, using hot water and/or de-scaling acid. When there is no draw at all, carefully remove fittings and soak entire injector body in de-scaling acid.
14. **More than one chemical ball valve is open**
    - 2-Way and 3-Way models only

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.