Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 980135-D7 · Decon 7 105HCDU FPV Mixing Station

REQUIREMENTS

Three (3) Liquids to Mix	
Compressed Air	up to 3 CFM
Discharge Hose	1/2" x 5' (Open Flow)



Lafferty EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

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WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The Decon 7 105HCDU FPV Mixing Station blends three (3) liquid chemical products into a single solution and dispenses into any container. This unique proportioning system uses an air-operated pump to draw the first product from a user-supplied container and provide the fluid pressure for a venturi injector that draws in the remaining products. Metering tips control the rate at which the second and third chemicals are drawn into the first, and the resulting solution mixes thoroughly prior to being discharged through the open flow hose. This model is pre-set to achieve the dilution ratios for the chemical Decon 7.

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 use chemicals that are not compatible with Viton diaphragms.

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

1. Mount the unit above chemical containers to prevent siphoning.
2. Securely attach the 10' x 1/2" clear suction tube to the pump and place the strainer in a container of Chemical #1. *NOTE: Chemical #1 should be the product that is required in the highest concentration in the final solution - this is the chemical into which the other two are blended.*
3. Splice a metering plug into the shorter 6' x 1/2" clear suction tube and use hose clamps to secure the plug and tube as shown in diagram. Place the strainer into Chemical #2. *NOTE: Chemical #2 should be the product that is required in the second highest concentration in the final solution.*
4. Thread a metering tip into the small check valve (use care not to overtighten) and slide the 1/4" suction tube over the metering tip and check valve barb. Place the strainer in Chemical #3. *NOTE: Chemical #3 should be the product that is required in the lowest concentration in the final solution.*
5. Attach a compressed airline to the inlet ball valve. **Compressed air is set at 60 PSI.** DO NOT TURN ON.

DILUTION CONTROLS ARE *PRESET* FOR DECON7 - READ INSTRUCTIONS AND CONDUCT TRIALS BEFORE MAKING ADJUSTMENTS.

- See chemical labels or consult your chemical supplier.
- Validate output before application.
- ALL chemical suction tubes must be placed in chemical.

The usage rate of Chemical #2 is regulated using a metering plug.

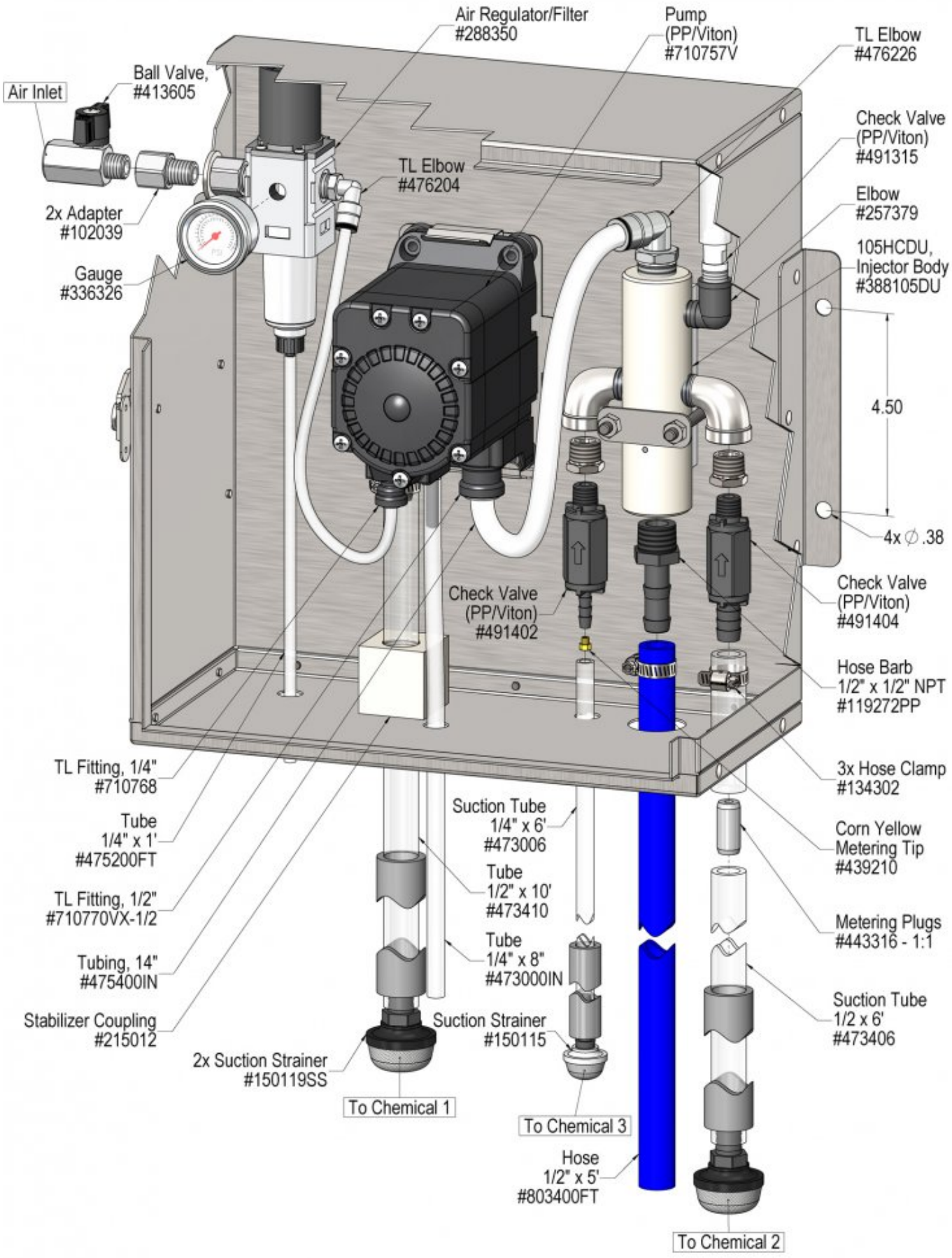
- Metering plug is spliced into the larger 1/2" suction tube and secured using hose clamps.
- Metering plug has been pre-drilled for Decon7 ratios.

The usage rate of Chemical #3 is regulated using a metering tip.

- Metering tip threads into check valve on the 1/4" suction tube.
- CORN YELLOW metering tip has been pre-installed for Decon7 ratios.

TO OPERATE

1. Hold the discharge tube inside the container to be filled, do not release it, completely open the inlet ball valve.
2. When container is filled to the desired level, close the ball valve and keep the discharge tube in the container until it completely drains before removing it. Do NOT kink the discharge hose.
3. Make final tip metering tip / plug adjustments based on results.


Air Regulator/Filter
#288350
Pump
(PP/Viton)
#710757V
TL Elbow
#476226
Ball Valve,
#413605
Air Inlet
Check Valve
(PP/Viton)
#491315
TL Elbow
#476204
Elbow
#257379
2x Adapter
#102039
105HCDU,
Injector Body
#388105DU
Gauge
#336326
4.50
4x ∅ .38
Check Valve
(PP/Viton)
#491402
Check Valve
(PP/Viton)
#491404
Hose Barb
1/2" x 1/2" NPT
#119272PP
TL Fitting, 1/4"
#710768
3x Hose Clamp
#134302
Suction Tube
1/4" x 6'
#473006
Tube
1/4" x 1'
#475200FT
Corn Yellow
Metering Tip
#439210
Tube
1/2" x 10'
#473410
TL Fitting, 1/2"
#710770VX-1/2
Metering Plugs
#443316 - 1:1
Tube
1/4" x 8"
#473000IN
Tubing, 14"
#475400IN
Suction Tube
1/2 x 6'
#473406
Stabilizer Coupling
#215012
Suction Strainer
#150115
2x Suction Strainer
#150119SS
To Chemical 1
To Chemical 3
Hose
1/2" x 5'
#803400FT
To Chemical 2

Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Air pump will not run or pump chemical solution.	1, 2, 5, 6	8, 10, 11
B) Chemical mixture not right / does not get intended results	3, 4	7, 8, 9
C) Unit doesn't turn on	1, 5, 6	10

Possible Cause / Solution

Startup

1. **Inlet ball valve partially closed or air pressure too low.**
   - Completely open air inlet ball valve.
2. **Problem with suction tube to Chemical #1 or Chemical #1 is depleted**
   - Immerse pump's suction tube strainer completely in primary chemical #1.
   - Check that suction tube is securely attached to pump with no gaps between tube and barb.
   - Check that suction tube does not have a split, cut or pin hole and is not stretched out near the end. As needed, cut off end of tube or replace tube.
   - Refill Chemical #1.
3. **Problem with suction tube to Chemical #2 and/or Chemical #3**
   - Immerse tube(s) strainer(s) completely in intended chemical concentrate
   - Check that suction tubes are securely attached.
   - Check that suction tubes are in good condition (see details in item 2, above). As needed, cut off end of tube(s) or replace.
4. **Incorrect metering plug (chemical 2) and/or metering tip (chemical 3) is installed. *(For chemical designations, see diagram)***
   - Refer to Metering Tip Selection chart and metering plug details on instructions page 2.
   - Select larger or smaller metering tip/plug to draw in more or less of the respective chemical until the desired chemical mixture / results are achieved.
5. **Discharge hose kinked**
   - Straighten the hose.
6. **Ice particles from condensation in air line — Air pump can periodically "freeze up" (stall) due to ice particles in the pump's exhaust (depending on air humidity & other factors)**
   - WAIT several seconds to allow the ice particles to melt and blow out, at which time the pump will automatically resume pumping.

Maintenance

7. **Chemical check valve stuck or failed**
   - Clean or replace.
8. **Chemical strainer or metering tip partially blocked**
   - Clean or replace chemical strainer and/or metering tip.
9. **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.
10. **Problem with air pump**
    - Refer to air pump instruction manual.
    - https://www.xylem.com/en-us/brands/Flojet/flojet-products/g57-air-operated-double-diaphragm-pump
    - Replace pump.
11. **Use of an oiler in the airline will cause pump to stall**
    - Use only clean, dry air.

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.