Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 932617-V · 2-Way APV MMPR Concrete Sprayer

REQUIREMENTS

Chemical Concentrate

Water

Temperature	up to 160°F
Pressure	10 to 125 PSI
Flow	0.76 GPM @ 40 PSI
Supply Line	1/2"
Compressed Air	up to 3 CFM
Hose	1/2" ID x 50'
Nozzle	2520

OPTIONS

Stainless Steel Hose Racks

Large Stainless Steel Hose Rack	# 224150

Stainless Steel Jug Racks

2 ½ Gal. (8 ½" x 10 ½")	# 224210
5 Gallon (12" x 12") Round/Square	# 224215

To Dilute and Dispense Ready-To-Use Acid Solution

414HC Acid Mixing Station	# 980415

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

Lafferty® EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

www.laffertyequipment.com
501-851-2820

WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The 2-Way APV MMPR Concrete Sprayer is a spray applicator for projecting 2 highly corrosive chemicals such as those used to remove concrete and for aluminum brightening. This acid-resistant system uses a cost-effective Flojet air-operated, double-diaphragm pump and water pressure to draw and blend chemical concentrate into the water stream or project neat chemical. A uniform spray is projected through the hose, wand and fan nozzle on to any surface. Alternate between 2 different concentrations or chemicals using ball valves.

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 to a suitable surface above the chemical supply to prevent siphoning.
2. Connect the discharge hose.
3. When connecting to a potable water supply follow all local codes for backflow prevention.
4. Connect water supply. To prevent blocking the small water jets in the injector body, flush any new plumbing of debris before connecting. If water piping is older and has known contaminants, install a filter.
5. Connect air supply. If air line is older and has known contaminants install a filter.

Setting the Dilution Ratio

By turning the chemical dilution needle valve in slight increments you control the chemical dilution ratio, thus allowing you to achieve virtually any dilution ratio between 11-1 and 1-1 or neat chemical. See Dilution Ratio Setting Guideline Chart for guidance.

TO OPERATE

- **Always make sure the discharge ball valve is closed or pointed in a safe direction before turning the air on. Ball valve can be shut off at any time during operation but should not be left unattended for long periods of time. Expect a strong blast when re-opening ball valve.**
- **The unit has been tested and is ready to operate, the air pressure preset at 60PSI.**
- **DO NOT GO OVER 60 PSI.**

1. With the spray wand in hand direct the discharge in a safe direction and open the discharge ball valve, 1-chemical ball valve and the air ball valve.

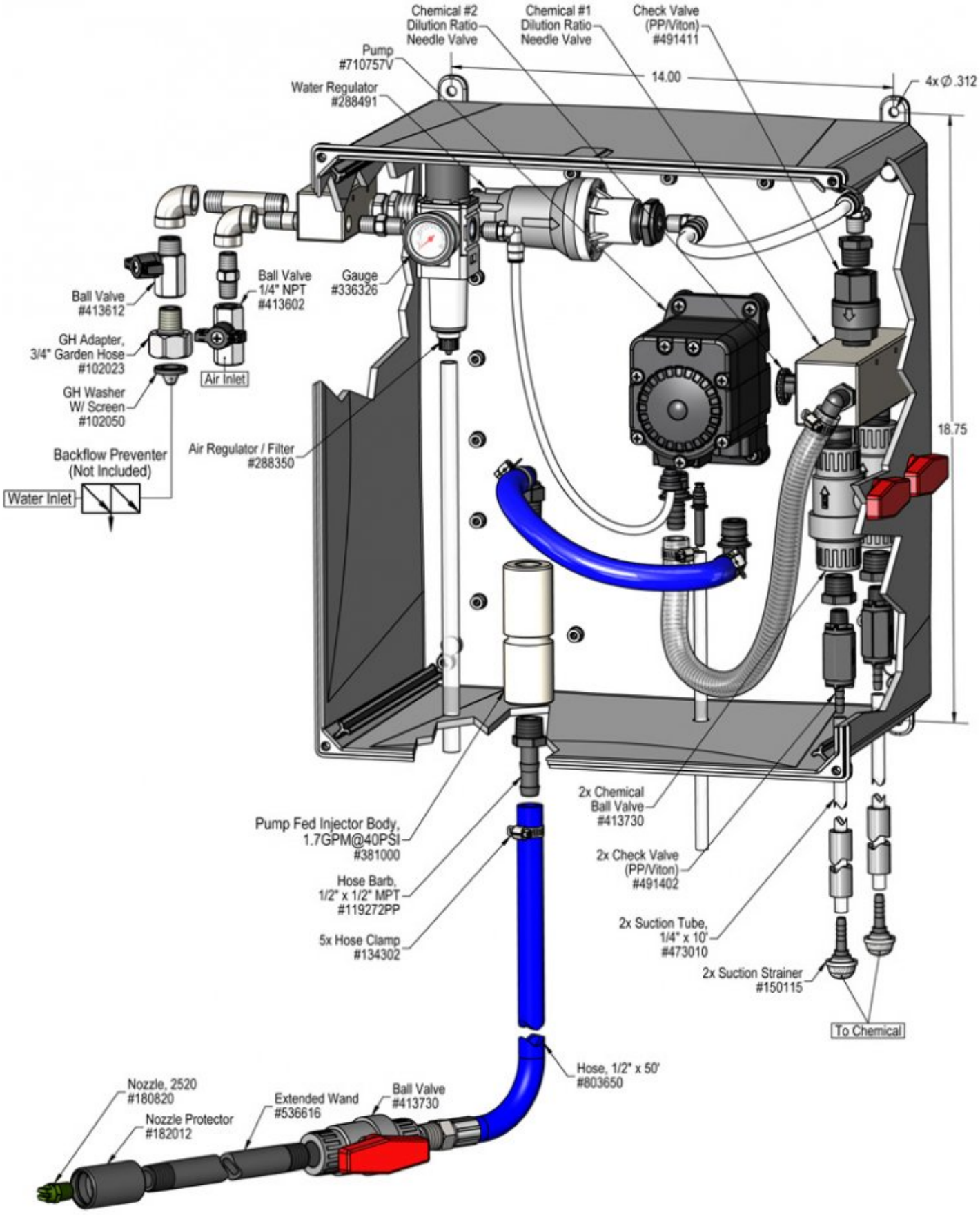
2. Final dilution ratios will now have to be made.
    - By turning the chemical dilution needle valve (s) in slight increments you control the chemical dilution ratio, thus allowing you to achieve virtually any dilution ratio between 11-1 and 1-1 or neat chemical.
    - Turn blue knobs counterclockwise for more chemical clockwise for less.

3. When spraying is complete:
    - Close the discharge ball valve.
    - Promptly return to the unit and close the air ball valve.
    - Briefly re-open the discharge ball valve to relieve pressure in the hose.

4. Rinse before the surface dries.

DILUTION RATIO SETTING GUIDELINES
TURN NEEDLE VALVES COUNTERCLOCKWISE TO OPEN

Chemical Needle Valve	Water	Water/ Chemical Dilution Ratio
1/16 Turn	On	11:1
1/2 Turn	On	3:1
3/4 Turn	On	2:1
1 Turn	On	1.5:1
1 1/2 Turns or more	On	1:1
Wide Open	Off	Neat Chemical
Air Pressure is pre-set at 60 PSI. Do not exceed 60 PSI air. Water Flow Rate remains constant at 0.76 GPM		


Chemical #2
Dilution Ratio
Needle Valve
Chemical #1
Dilution Ratio
Needle Valve
Check Valve
(PP/Viton)
#491411
Pump
#710757V
14.00
4x Ø .312
Water Regulator
#288491
Ball Valve
#413612
Ball Valve
1/4" NPT
#413602
Gauge
#336326
GH Adapter,
3/4" Garden Hose
#102023
Air Inlet
GH Washer
W/ Screen
#102050
18.75
Backflow Preventer
(Not Included)
Air Regulator / Filter
#288350
Water Inlet
2x Chemical
Ball Valve
#413730
Pump Fed Injector Body,
1.7GPM@40PSI
#381000
2x Check Valve
(PP/Viton)
#491402
Hose Barb,
1/2" x 1/2" MPT
#119272PP
2x Suction Tube,
1/4" x 10'
#473010
5x Hose Clamp
#134302
2x Suction Strainer
#150115
To Chemical
Hose, 1/2" x 50'
#803650
Nozzle, 2520
#180820
Extended Wand
#536616
Ball Valve
#413730
Nozzle Protector
#182012

Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Air pump will not pump or runs with no output.	1, 2, 3, 4, 6	8, 9, 10
C) Using too much chemical	1, 5	
D) Cleaning results not acceptable	3, 4, 7	

Possible Cause / Solution

Startup

1. **Inlet ball valves partially closed. MAXIMUM air pressure is 60 PSI**
   - Completely open air inlet ball valve.
2. **Discharge or chemical ball valve not completely open or discharge hose kinked**
   - Completely open the discharge ball valve / straighten hose
   - Open 1-chemical ball valve
3. **Solution tube not completely immersed in chemical or container empty**
   - Immerse tube or replenish chemical.
4. **Dilution too weak**
   - Increase chemical by turning chemical needle valve counterclockwise.
5. **Dilution too strong**
   - Decrease chemical by turning chemical needle valve clockwise.
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.
7. **Soil has hardened on surface**
   - Always rinse before it dries.

Maintenance

8. **Chemical strainer blocked**
   - Clean or replace
9. **Air regulator clogged or failed**
   - Clean or replace
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.

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.