Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 933417-V-TDR · Timed Delay 2-Way APV MMPR Concrete Foamer

REQUIREMENTS

Chemical Concentrate

Water

Temperature	up to 160°F
Pressure	10 to 125 PSI
Flow	0.76 GPM @ 10 PSI
Supply Line	1/2"
Compressed Air	up to 6 CFM
Hose	3/4" ID x 50'
Nozzle	40200
Electric	120V

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 Sticks Available

WEIGHT & DIMENSIONS

Single Package

Shipping Weight	58 lbs.
Shipping Dimensions	34" x 29" x 11"



Lafferty® EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

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WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The Timed Delay 2-Way APV MMPR Concrete Foamer is a low volume foam applicator for projecting 2 highly corrosive chemicals or two ratios of the same chemical 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 two chemical concentrates from static containers with water or project neat chemical. Compressed air is injected into the solution to greatly increase volume and coverage ability. Rich, clinging foam is projected through the hose, wand and nozzle on to any surface. A dual-function timer controls the length of application and the delay time before the system can be restarted, preventing immediate reactivation and chemical overuse.

SAFETY & OPERATIONAL PRECAUTIONS

- **See Additional Safety Precautions included with the Electrical Control Box Installation Information**
- **Always consider electrical shock hazard when working with and handling electrical equipment. If uncertain, consult an Electrician. Electrical wiring should only be done by a qualified Electrician, per Local and State Electrical Codes.**
- 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.
- For proper performance do NOT modify electrical control box.
- Manufacturer assumes no liability for the use or misuse of this unit.
- Disconnect electrical power to the control box prior to opening it.
- Remove any packing material from inside the control box before operating.

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 foamer 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.

SETTING THE TIMER

1. Make sure the system is not plugged in to a power source. Remove control box cover. The box contains one timer with "Run & Delay" adjustment knobs.
   Run: This mode allows you to set the length of time you want the unit to run each time the operator presses the remote button. Set the timer by turning the knob to the amount of run time that you require. (0-6 Minutes)
   Delay: This mode allows you to set the length of time you want the unit to be inactive for after each application. Set the timer by turning the knob to the amount of delay time that you require. (0-6 Minutes)
2. Replace the control box cover.
3. Plug the power cord into a 120 VAC power outlet. GFI recommended.
4. Turn on your air and water supplies.
5. Push the remote button to activate the timer and make any last adjustments needed.
6. The unit is ready for operation. The run mode will activate the unit for the preset time and time out and will not reactivate till the time runs out on the delay mode. The unit will reset.

TO OPERATE

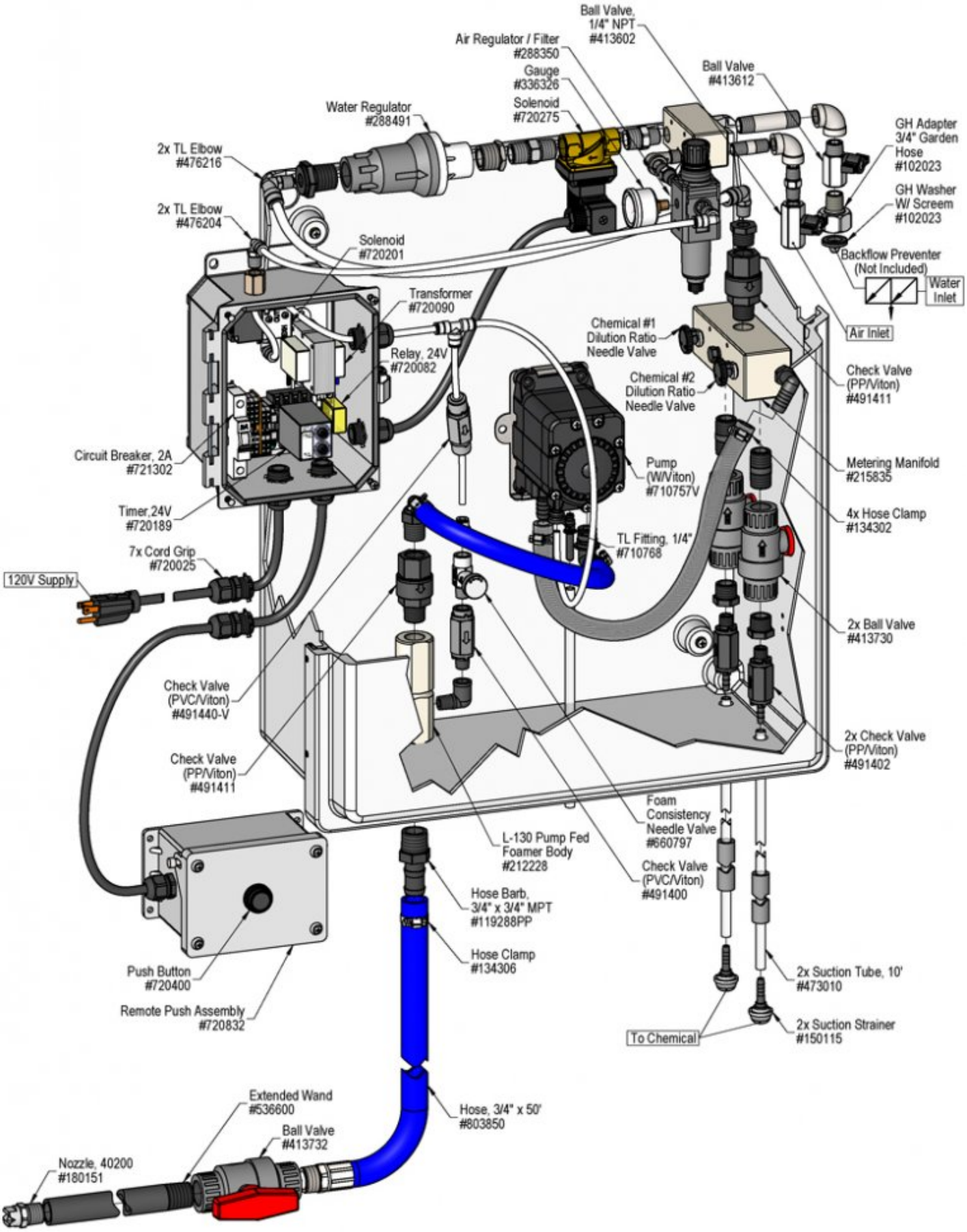
- **Always make sure the discharge ball valve is closed or pointed in a safe direction before turning the air on. Ball valve can be shut off at any time during operation but should not be left unattended for long periods of time. Expect a strong blast when re-opening ball valve.**
- **The unit has been tested and is ready to operate, the air pressure preset at 60 PSI.**
- **DO NOT GO OVER 60 PSI.**
- The foam consistency knob is pre-set at 1/2 turn. To adjust foam consistency, turn the foam consistency needle valve counterclockwise **a maximum of 1 turn** for dryer foam and clockwise for wetter foam. Wait several seconds after each adjustment to see the results.
- Note: Because of the low flow rate of the water, very little air is required.

1. With the foam wand in hand direct the discharge in a safe direction and open the discharge ball valve, 1-chemical and the air ball valve.
2. If the flow of foam surges.
   - Reduce the air flow by turning the foam consistency needle valve slowly clockwise until the foam flow stabilizes.
   - Add more chemical concentrate by turning the chemical dilution needle valve counterclockwise.
3. A medium-wet foam will give the best cleaning results! Very dry foam will NOT clean as well!
4. When foaming is complete:
   - Close the discharge ball valve.
   - Promptly return to the unit and close the water, chemical and the air ball valve.
   - Briefly re-open the discharge ball valve to relieve pressure in the hose.
5. Rinse the work surface before the foam 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		


Ball Valve, 1/4" NPT #413602
Air Regulator / Filter #288350
Gauge #336326
Solenoid #720275
Ball Valve #413612
Water Regulator #288491
GH Adapter 3/4" Garden Hose #102023
2x TL Elbow #476216
GH Washer W/ Screem #102023
2x TL Elbow #476204
Solenoid #720201
Backflow Preventer (Not Included)
Water Inlet
Transformer #720090
Air Inlet
Chemical #1 Dilution Ratio Needle Valve
Relay, 24V #720082
Check Valve (PP/Viton) #491411
Chemical #2 Dilution Ratio Needle Valve
Circuit Breaker, 2A #721302
Pump (W/Viton) #710757V
Metering Manifold #215835
Timer,24V #720189
4x Hose Clamp #134302
TL Fitting, 1/4" #710768
7x Cord Grip #720025
120V Supply
2x Ball Valve #413730
Check Valve (PVC/Viton) #491440-V
2x Check Valve (PP/Viton) #491402
Check Valve (PP/Viton) #491411
Foam Consistency Needle Valve #660797
L-130 Pump Fed Foamer Body #212228
Check Valve (PVC/Viton) #491400
Hose Barb, 3/4" x 3/4" MPT #119288PP
Hose Clamp #134306
Push Button #720400
2x Suction Tube, 10' #473010
Remote Push Assembly #720832
To Chemical
2x Suction Strainer #150115
Extended Wand #536600
Hose, 3/4" x 50' #803850
Ball Valve #413732
Nozzle, 40200 #180151

Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Air pump will not pump or runs with no output.	1, 2, 3, 4, 7	11, 12, 13, 14, 15, 16
B) Foam surges and/or hose "bucks".	1, 2, 3, 4, 5, 6, 7	11, 13, 14
C) Foam output too wet.	1, 2, 3, 4, 5, 6	11, 13, 14
D) Foam output too dry.	2	
E) Cleaning results not acceptable.	5, 6, 8	
F) Unit comes on and runs continuously	9, 10	
G) Remote button will not operate the unit	9, 10	

Possible Cause / Solution

Startup

1. **Inlet ball valve partially closed. MAXIMUM air pressure is 60 PSI**
   - Completely open air inlet ball valve.
2. **Foam consistency needle valve open too much**
   - Adjust the air needle valve slowly clockwise until foam stabilizes. Turn round handle slightly clockwise for wetter foam; open counterclockwise for dryer foam. Open a maximum of 1 turn
3. **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
4. **Solution tube not completely immersed in chemical or container empty**
   - Immerse tube or replenish chemical.
5. **Dilution too weak**
   - Increase chemical by turning chemical needle valve counterclockwise.
6. **Improper chemical**
   - Ensure product is recommended for foaming and/or the application
7. **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.
8. **Soil has hardened on surface**
   - Always rinse foam before it dries.
9. **Timer not set properly or malfunctioned**
   - See Timer Adjustment on page 2 or replace timer.
10. **May have electrical problems**
    - Have a qualified electrician check electrical connections.
    - Ensure circuit breaker (5 amp) has not been tripped.

Maintenance

11. **Chemical strainer blocked**
    - Clean or replace
12. **Air regulator failed**
    - Clean or replace
13. **Air or water check valve(s) failed**
    - Clean or replace
14. **Discharge hose wrong size or kinked (See REQUIREMENTS, page 1).**
    - Straighten the hose
15. **Nozzle size too small or missing**
    - See REQUIREMENTS, page 1.
16. **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.