Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # 910783 · TransJector

REQUIREMENTS

Chemical Concentrate	
Water	
Supply Line	1/2" I.D.
Temperature	up to 160°F
Pressure	40 - 125 PSI
Flow	Variable, 3.3 to 7.3 GPM
Hose/Pipe	1/2" or 3/4"Not Included
Nozzles	Per Application

OPTIONS

Stainless Steel Jug Racks	
2 ½ Gal. (8 ½" x 10 ½")	# 224210
5 Gallon (12" x 12") Round/Square	# 224215
Custom Built Spray Bars With Matching Nozzles	
Contact us for details	
Alternate Chemical Check Valve - Viton Standard	
Check Valve, Chemical, PP(W), 1/4" (EPDM)	# 491401



Lafferty EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

www.laffertyequipment.com
501-851-2820

WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The TransJector is an "adjustable flow" chemical injector for feeding spray bars and arches with a nozzle flow rate from 3.3 to 7.3 GPM @ 40 PSI. This venturi injection unit uses city water pressure (40 - 125 PSI) to draw and blend chemical concentrate into the water stream. Both the water and chemical flow can be adjusted "on-the-fly" via needle valves making this a versatile unit for both new spray bar installations and retrofitting existing spray bar installations.

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)

If you are connecting to a potable water supply follow all local codes for backflow prevention.

1. Mount the unit to a suitable surface above the chemical supply to prevent siphoning.
2. Connect hose(s) as shown in the diagram.
3. Flush any new plumbing of debris before connecting water.
4. Connect water supply. Install a water filter if water piping is older or has known contaminants.

How to Set Your Dilution Ratio:

- The needle valve allows you to achieve a wide range of dilution ratios while you are adjusting the water flow rate to fully feed the nozzles.
- Turn counterclockwise to increase flow or clockwise to decrease flow.
- For a starting place turn the knob completely clockwise (closed) then turn 1 turn counterclockwise (open).
- Once you have the flow rate adjusted and all the nozzles are performing equally, you can try installing a metering tip, if you prefer to have the chemical flow fixed. Since the water flow rate is unknown, this is a trial and error procedure. Refer to the tip chart as a reference.

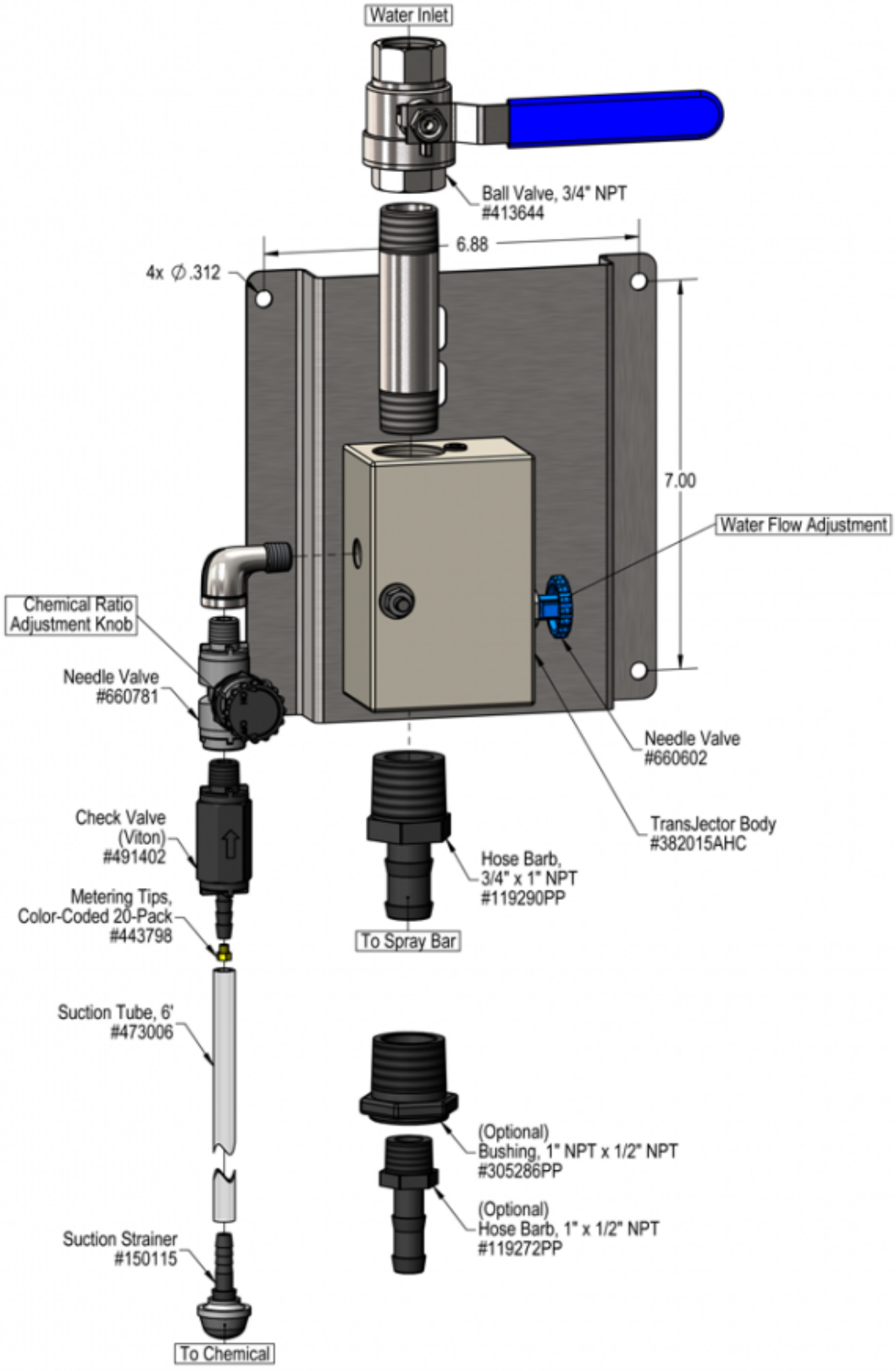
TO OPERATE

1. Final chemical dilution and water flow adjustments will now have to be made.
2. Turn on the water ball valve.
3. Start out with the chemical ratio adjustment knob open one turn (or with a larger metering tip than you think you will need) and make adjustments until the all the nozzles project a full pattern and application results are satisfactory
    - If all nozzles are not projecting spray, slightly turn the blue "water flow adjustment knob" counterclockwise to add more water. Wait after each adjustment to see the results. Results are not instant.
    - Continue adding/decreasing water via the blue "water flow adjustment knob" on the injector body till all nozzles are projecting spray. Increase/decrease till results are acceptable. Be PATIENT.
    - You will have to try different chemical and water settings until cleaning results are acceptable. Once this is set you are ready to start application. Now you can try to decrease the amount of chemical used (or the metering tip size, if installed) based on cleaning results.

METERING TIP SELECTION

METERING TIP COLOR	FL-OZ PER MIN
Brown	0.56
Clear	0.88
Bright Purple	1.38
White	2.15
Pink	2.93
Corn Yellow	3.84
Dark Green	4.88
Orange	5.77
Gray	6.01
Light Green	7.01
Med. Green	8.06
Clear Pink	9.43
Yellow Green	11.50
Burgundy	11.93
Pale Pink	13.87
Light Blue	15.14
Dark Purple	17.88
Navy Blue	25.36
Clear Aqua	28.60
Black	50.00

The fl-oz/min shown are approximate values. Due to chemical viscosity, actual fl-oz/min may vary.


Water Inlet
Ball Valve, 3/4" NPT
#413644
6.88
4x ∅.312
7.00
Water Flow Adjustment
Chemical Ratio
Adjustment Knob
Needle Valve
#660781
Needle Valve
#660602
TransJector Body
#382015AHC
Check Valve
(Viton)
#491402
Hose Barb,
3/4" x 1" NPT
#119290PP
Metering Tips,
Color-Coded 20-Pack
#443798
To Spray Bar
Suction Tube, 6'
#473006
(Optional)
Bushing, 1" NPT x 1/2" NPT
#305286PP
(Optional)
Hose Barb, 1" x 1/2" NPT
#119272PP
Suction Strainer
#150115
To Chemical

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 or chemical adjustment knob not open far enough**
   - Install larger metering tip.
   - Turn chemical adjustment knob counter-clockwise
3. **No metering tip installed, metering tip too large or chemical adjustment knob not open too far**
   - Install smaller metering tip.
   - Turn chemical adjustment knob clockwise
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.