Lafferty Equipment Manufacturing, Inc.
Installation & Operation Instructions

Model #975020 • Uni-Body W-20 Spray-All

REQUIREMENTS

Water

Temperature	up to 160°F
Pressure	35 - 125 PSI
Flow	up to 2 GPM
Supply Line	1/2"

Nozzle 2520

OPTIONS

Stainless Steel Hose Racks

Large	# 224150
Small	# 224145

Stainless Steel Jug Racks

1 Gallon Round	# 224200
1 Gallon Square	# 224205
2 ½ Gallon (8 ½" x 10 ½")	# 224210
5 Gallon (12" x 12")	# 224215
5 Gallon Round Locking	# 224216

READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

www.LaffertyEquipment.com
501-851-2820

Principles of Operation

This sprayer is powered by water pressure and will draw chemical concentrate from any sized container mix it with the water and spray the solution onto any surface. Metering tips provide up to 21 dilution ratios.

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.
- When connecting to a potable water supply follow all local codes for backflow prevention.
- Wear protective clothing, gloves and eye wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- For pressures over 100 PSI, remove the discharge valve or lower pressure.
- Follow the chemical manufacturer's safe handling instructions.
- NEVER mix chemicals without first consulting chemical manufacturer.

TO INSTALL (REFER TO DIAGRAM, 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 the discharge hose as shown in the diagram.
3. To prevent blocking the small water jets in the injector flush any new plumbing of debris before connecting water.
4. Connect water supply. If water piping is older or has known contaminants install a water filter.

Set the chemical dilution ratio by installing a metering tip into each chemical check valve.

- For the strongest possible chemical dilution ratio, do not install a metering tip.
- See chemical label for dilution ratio recommendation or consult your chemical supplier.
- The dilution ratios in the metering tip chart are based on chemical with a viscosity of 1CPS.
- For water pressure other than the example, use the Metering Tip Selection Formula.
- Chemical viscosity and applications vary, you may need to increase/decrease the tip size to get the best result.
- Once metering tip is selected and installed, push the chemical tube over the check valve and immerse the chemical strainer into your chemical concentrate.

TO OPERATE

Always make sure the discharge ball valve is closed or pointed in a safe direction before turning water on. Ball valve can be shut off at any time during operation but should not be left unattended for long periods of time.

1. Open the inlet ball valve then open the discharge ball valve to begin application.
2. Make final metering tip adjustments based on application results.
3. When application is completed, close the discharge ball valve, return to the unit and close the inlet ball valve. Re-open the discharge ball valve to relieve pressure in hose then close the discharge ball valve. If applicable rinse the work surface before solution dries.

Metering Tip Selection Chart

Metering Tip Color	Oz. per Min.	Example: Dilution Ratio @ 40 PSI
Brown	.56	192:1
Clear	.88	122:1
Bright Purple	1.38	78:1
White	2.15	50:1
Pink	2.93	37:1
Corn Yellow	3.84	28:1
Dark Green	4.88	22:1
Orange	5.77	19:1
Gray	6.01	18:1
Light Green	7.01	15:1
Med. Green	8.06	13:1
Clear Pink	9.43	11:1
Yellow Green	11.50	9:1
Burgundy	11.93	9:1
Pale Pink	13.87	8:1
Light Blue	15.14	7:1
Dark Purple	17.88	6:1
Navy Blue	25.36	—
Clear Aqua	28.60	—
Black	45.00	—
No Tip Ratio	up to	6.0:1

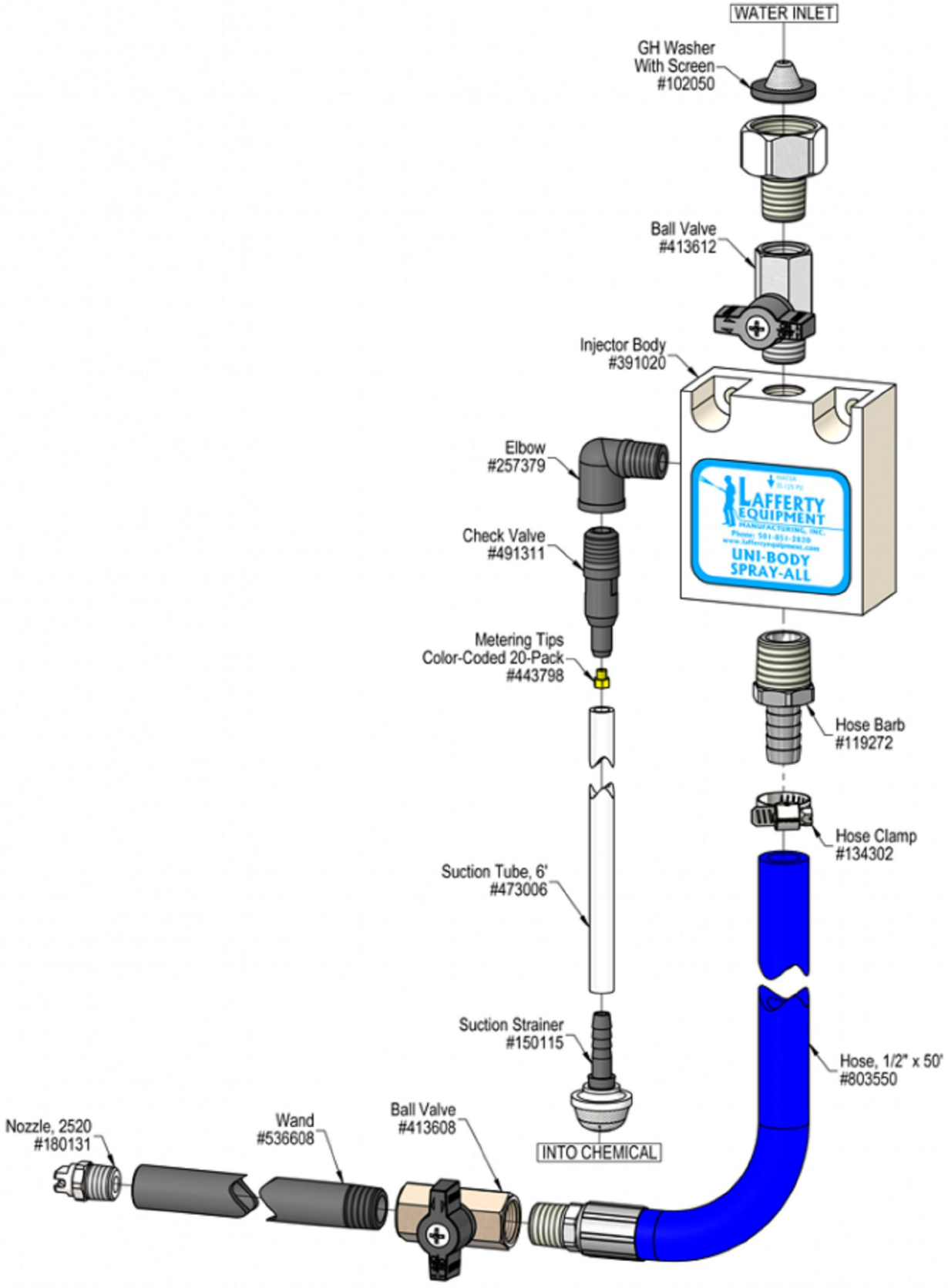
The dilution ratios above are approximate values. Due to chemical viscosity, actual dilution ratios may vary.

Metering Tip Selection Formula

(GPM x 128) / Dilution Ratio = Oz. per Min

Flow Rate Chart

Pressure	Flow Rate
PSI	GPM
40	**0.84**
50	0.94
60	1.03
70	1.11
80	1.19
90	1.26
100	1.33


WATER INLET
GH Washer
With Screen
#102050
Ball Valve
#413612
Injector Body
#391020
Elbow
#257379
Check Valve
#491311
Metering Tips
Color-Coded 20-Pack
#443798
LAFFERTY EQUIPMENT
MANUFACTURING, INC.
UNI-BODY
SPRAY-ALL
Hose Barb
#119272
Hose Clamp
#134302
Suction Tube, 6'
#473006
Suction Strainer
#150115
Hose, 1/2" x 50'
#803550
Nozzle, 2520
#180131
Wand
#536608
Ball Valve
#413608
INTO CHEMICAL

Troubleshooting Guide

Model #975020 • Uni-Body W-20 Spray-All

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.