

# Lafferty Equipment Manufacturing, LLC Installation & Operation Instructions

## Model # BLU40 · Ultimate Wash System 1

### REQUIREMENTS

#### Water

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

#### Flow

Foam	1.34 GPM @ 40 PSI
Rinse	up to 4 GPM

#### Hose

	1/2" ID
--	---------

#### Nozzle

Foam	A-25 Airless Foam Wand
Rinse	Garden Hose Gun

### OPTIONS

#### Stainless Steel Hose Racks

Large Stainless Steel Hose Rack	# 224150
---------------------------------	----------

#### Stainless Steel Jug Racks

1 Gallon Round/Square	# 224200
1 Gallon Round/Square Locking	# 224200-L
2 ½ Gallon (8 ½" x 10 ½")	# 224210
5 Gallon Round/Square Locking (12" x 12")	# 224214
5 Gallon Round/Square (12" x 12")	# 224215

#### Safe Flow Lid™ for 1 Gallon Jugs

Lid, Suction Tube, and Strainer	# 709101
---------------------------------	----------

#### Alternate Check Valve - EPDM Standard

Check Valve, Chemical, PP/Viton, 1/4"	# 491315
---------------------------------------	----------



[www.laffertyequipment.com](http://www.laffertyequipment.com)

501-851-2820

**WARNING! READ ALL  
INSTRUCTIONS BEFORE  
USING EQUIPMENT!**



### OVERVIEW

The Blue Mule Ultimate Wash System 1 is a medium volume wash & rinse system for applying one chemical as foam and rinsing through the same hose. This venturi injection system draws chemical concentrate from any container, mixes it with water, and projects the diluted solution through the 50' discharge hose. The foam wand draws in atmospheric air into the solution to create clinging, wet foam. Remove the foam wand and adjust the ball valves to rinse with clean water using just the garden hose gun. This heavy-duty system is designed to outperform and outlast the competition through superior design and materials.

**SAFETY & OPERATIONAL PRECAUTIONS**

- When connecting to a potable water supply follow all local codes for backflow prevention.
- **WARNING: Severe damage to your facility, or contamination of your potable water supply, can occur without proper 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 safety goggles 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.
- Never leave inlet ball valves on when unit is not in use.
- 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.

Set the chemical dilution ratio by threading one of the color coded metering tips into each chemical check valve. See chemical labels for dilution ratio recommendation or consult your chemical supplier.

- For the strongest dilution ratio do NOT install a colored metering tip.
- The dilution ratios in the metering tip chart are based on water thin chemicals with a viscosity of 1CPS.
- Thicker chemicals will require a larger tip than the ratios shown in the chart.
- Application results will ultimately determine final tip color.
- Select the tip color that is closest to your desired chemical strength and thread it into the tip holder. **DO NOT OVER-TIGHTEN.**
- Push the chemical tube over the check valve barb and place the suction tube in the chemical concentrate.
- If necessary, cut suction tube(s) to length before attaching suction strainer.

**TO OPERATE**

Always make sure the discharge hose is in your hand and pointed in a safe direction before turning any of the water inlet valves on. Discharge can be shut off at any time during operation but should not be left off for long periods of time with water valve on

**Open only one inlet ball valve at a time.**

**TO FOAM**

1. Securely screw the airless foam wand to the end of the gun.
2. Completely open the chemical ball valve. Point the wand towards the animal or object to be washed and pull the trigger. There is no right or wrong way to apply the foam and everyone has their own method.
3. Make final metering tip adjustments based on foam quality and cleaning results.

**TO RINSE**

- A gentle rinsing can be done through the airless foam wand for small animals or ones with sensitive skin.
  - For a more powerful rinse remove the airless foam wand and use the trigger gun. The water volume and rinse pressure can also be controlled by partially closing the inlet rinse ball valve
1. Open the rinse ball valve on the unit.
  2. Squeeze the trigger to begin rinsing. When finished, release the trigger and close the rinse ball valve. Squeeze the trigger to relieve pressure in the hose before winding up the hose.

**TO SPRAY**

- Some products do not foam so they can be sprayed on with the trigger gun.
  - Likewise all chemicals will not necessarily use the same metering tip. Keep up with the extra tips for this purpose.
1. Open the chemical ball valve. Squeeze the trigger to begin spraying chemical solution.
  2. Make final metering tip adjustments based on what product is being used and "cleaning" results.
  3. When finished, release the trigger and close the chemical ball valve. Squeeze the trigger to relieve pressure in the hose before winding up the hose.
  4. When finished, ALWAYS close the inlet water ball valves.

**METERING TIP SELECTION**

METERING TIP COLOR	OZ/MIN	DILUTION RATIO @ 40 PSI	
		FOAM	RINSE
Brown	0.56	306:1	—
Clear	0.88	195:1	—
Bright Purple	1.38	124:1	—
White	2.15	80:1	—
Pink	2.93	59:1	—
Corn Yellow	3.84	45:1	—
Dark Green	4.88	35:1	—
Orange	5.77	30:1	—
Gray	6.01	29:1	—
Light Green	7.01	24:1	—
Med. Green	8.06	21:1	—
Clear Pink	9.43	18:1	—
Yellow Green	11.50	15:1	—
Burgundy	11.93	14:1	—
Pale Pink	13.87	12:1	—
Light Blue	15.14	11:1	—
Dark Purple	17.88	10:1	—
Navy Blue	25.36	7:1	—
Clear Aqua	28.60	—	—
Black	50.00	—	—
No Tip Ratio Up To:		6:1	—

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

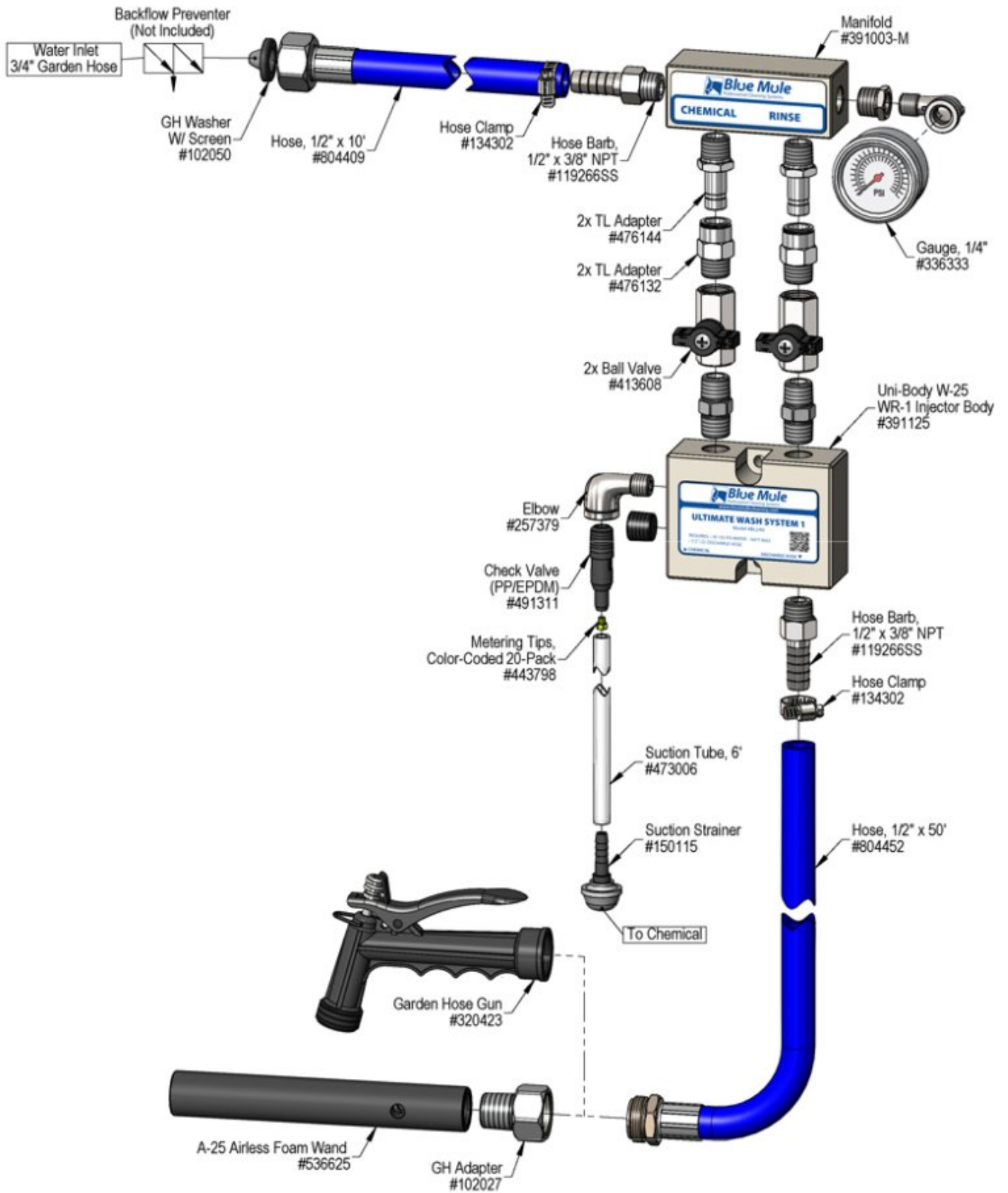
**FORMULA**

**GPM × 128 ÷ Desired Dilution Ratio = oz/min**

- See Unit Flow Rates chart for GPM
- Use 20 for 20:1 dilution ratio, 30 for 30:1, etc.
- Match calculated ounces per minute (oz/min) to nearest oz/min in Metering Tip Selection chart.

**UNIT FLOW RATES**

PSI	GPM	
	FOAM	RINSE
35	1.25	3.74
40	1.34	4.00
50	1.50	4.47
60	1.64	4.90
70	1.77	5.29
80	1.90	5.66
90	2.01	6.00
100	2.12	6.32
110	2.22	6.63
120	2.32	6.93
125	2.37	7.07



## Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Unit will not draw chemical.	1, 2, 3, 4, 5	9, 11, 12, 13, 14, 15, 16
B) Using too much chemical.	7	
C) Foam/spray does not clean/perform.	6, 8	12, 13, 14, 16
D) Water back flowing into chemical		9
E) Solution backing up into water line.		10

Possible Cause / Solution	
Startup	Maintenance
<ol style="list-style-type: none"> <li><b>1. Water pressure too low</b> <ul style="list-style-type: none"> <li>◦ Increase water pressure (see requirements).</li> </ul> </li> <li><b>2. Inlet ball valve or discharge ball valve not completely open</b> <ul style="list-style-type: none"> <li>◦ Completely open one inlet and the discharge ball valves.</li> <li>◦ (2-Way Units make sure one chemical ball valve is open)</li> </ul> </li> <li><b>3. More than one unit ball valve is open</b> <ul style="list-style-type: none"> <li>◦ Open only one unit ball valve at a time.</li> </ul> </li> <li><b>4. Discharge hose too long or kinked</b> <ul style="list-style-type: none"> <li>◦ Straighten or shorten the hose.</li> </ul> </li> <li><b>5. Chemical tube not immersed in chemical or chemical depleted</b> <ul style="list-style-type: none"> <li>◦ Immerse or replenish chemical</li> </ul> </li> <li><b>6. Improper chemical</b> <ul style="list-style-type: none"> <li>◦ Ensure product is recommended for foaming and/or the application.</li> </ul> </li> <li><b>7. Dilution too strong even with smallest metering tip</b> <ul style="list-style-type: none"> <li>◦ Some weak dilutions at lower water pressures are impossible to achieve with a metering tip. Pre-dilute your chemical until desired dilution ratio is achieved.</li> </ul> </li> <li><b>8. Dilution too weak</b> <ul style="list-style-type: none"> <li>◦ Install larger metering tip.</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li><b>9. Chemical check valve stuck or clogged</b> <ul style="list-style-type: none"> <li>◦ Clean or replace.</li> </ul> </li> <li><b>10. No backflow preventer installed</b> <ul style="list-style-type: none"> <li>◦ Install appropriate backflow preventer onto water line.</li> </ul> </li> <li><b>11. Airless Foam Wand screen blocked</b> <ul style="list-style-type: none"> <li>◦ Dried chemical build-up may be obstructing flow through the screen. Remove fittings and soak the entire wand in de-scaling acid.</li> </ul> </li> <li><b>12. Metering tip blocked</b> <ul style="list-style-type: none"> <li>◦ Clean or replace metering tip.</li> </ul> </li> <li><b>13. Chemical tube stretched out where tube slides over check valve or pin hole/cut in chemical tube</b> <ul style="list-style-type: none"> <li>◦ Cut off end of tube or replace tube.</li> </ul> </li> <li><b>14. Vacuum leak in chemical pick-up connection</b> <ul style="list-style-type: none"> <li>◦ Tighten the connection.</li> </ul> </li> <li><b>15. Water inlet strainer screen clogged</b> <ul style="list-style-type: none"> <li>◦ Clean screen or replace.</li> </ul> </li> <li><b>16. Chemical build-up or scale may have formed in the body causing poor or no chemical pick-up</b> <ul style="list-style-type: none"> <li>◦ Remove fittings and soak entire body in de-scaling acid. Replace fittings being careful not to cross thread or over tighten.</li> </ul> </li> </ol>

**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.

