Lafferty Equipment Manufacturing, LLC
Installation & Operation Instructions

Model # BLU44 · Ultimate Wash System 4

REQUIREMENTS

Water	
Temperature	up to 160°F
Pressure	35-125 PSI
Flow	
Low	up to .65 GPM
High	up to 2.15 GPM
Rinse	up to 4.5 GPM
Hose	1/2" ID
Nozzle	
Low Flow Foam	Adjustable Airless Foam Wand
High Flow Foam	A-25 Airless Foam Wand
Rinse	Garden Hose Gun
Spray	Low/High Flow Fan Nozzles

OPTIONS

Stainless Steel Hose Racks	
Large Stainless Steel Hose Rack	# 224150
Small Stainless Steel Hose Rack	# 224145
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

WEIGHT & DIMENSIONS

Single Package	
Shipping Weight	20 lbs.
Shipping Dimensions	28" x 19" x 8"

Lafferty EQUIPMENT MANUFACTURING LLC

CFS TECHNOLOGIES

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501-851-2820

WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The Blue Mule Ultimate Wash System 4 is a wash & rinse system for diluting and applying up to 4 chemicals as foam or spray and then providing a clean water rinse through the same 50' hose. This venturi injection system draws chemical concentrates from any sized containers, mixes them with water and projects the accurately diluted solutions as a fan pattern spray or rich, wet foam (depending on the chemical and nozzle used). Select high or low flow settings for chemical application and simply turn off the chemical ball valves and open the rinse valve to provide a full force rinse with clean water. This system is ideal for bathing pets in professional grooming shops, but has countless potential applications. 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 containers to prevent siphoning.
2. One 10' hook up hose is provided. Measure from the inlet hose barb to the hose spigot using the female end of the hose. Cut to the appropriate length and connect the hose to the barb and secure it with the clamp as shown in the diagram. Connect the opposite end to your hose spigot.
3. The 50' hose can also be cut to length if it is too long for the job(s).
   - When pet grooming if possible route the discharge hose underneath the sink and over the front of the sink. This will make the hose more manageable.

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

- 2-tubing Wye's are provided to join one low flow and one high flow together into a single tube if only 2 chemicals will be used. (See drawing)
- The left inlet valve is the low volume foam side and works with the low flow airless foam wand.
- The middle inlet valve is for rinsing.
- The right inlet valve is the higher volume foam side and works with the high flow airless foam wand.

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 water and one chemical ball valve at a time, unless you want a blend of two chemicals.

TO FOAM

1. Securely connect the airless foam wand you want to use to the gun.
2. Completely open the appropriate inlet ball valve and one chemical valve to begin application. There is no right or wrong way to apply the foam, work out your own method.
3. Pull the trigger gun to apply foam.
4. Make final metering tip adjustments based on foam quality and cleaning results.

TO RINSE

- A gentle rinsing can be done through either of the airless foam wands.
- For a more powerful rinse exchange the airless foam wand with trigger gun or either of the 2 nozzles.
- The water volume and rinse pressure can also be controlled by partially closing the rinse ball valve.

1. If rinsing with the foam wand close the chemical ball valve, open the inlet rinse ball valve.
2. If rinsing with the trigger gun quick, remove the foam wand and open the inlet water valve. 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 trying to remove the gun.

TO SPRAY

1. For non-foaming chemicals or for applying chemical with no foam. Connect the dark blue nozzle for the low flow and the light blue nozzle for the high flow to the gun.
2. Open the appropriate inlet ball valve and the chemical ball valve.
3. Pull the trigger to apply the spray.

CHEMICAL COMPATIBILITY NOTE: The check valves on this unit are EPDM, which is compatible with a wide range of shampoos, conditioners, and other detergents. Some oil based or citrus scented products may be chemically incompatible with EPDM and cause the internal components to swell and stop drawing chemical. If this occurs, please contact us to discuss alternate check valve materials.

METERING TIP SELECTION

METERING TIP COLOR	OZ/MIN	DILUTION RATIO @ 40 PSI	
		LOW FLOW	HIGH FLOW
Brown	0.56	91:1	306:1
Clear	0.88	58:1	195:1
Bright Purple	1.38	37:1	124:1
White	2.15	24:1	80:1
Pink	2.93	17:1	59:1
Corn Yellow	3.84	13:1	45:1
Dark Green	4.88	10:1	35:1
Orange	5.77	9:1	30:1
Gray	6.01	9:1	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:		8:1	6:1

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

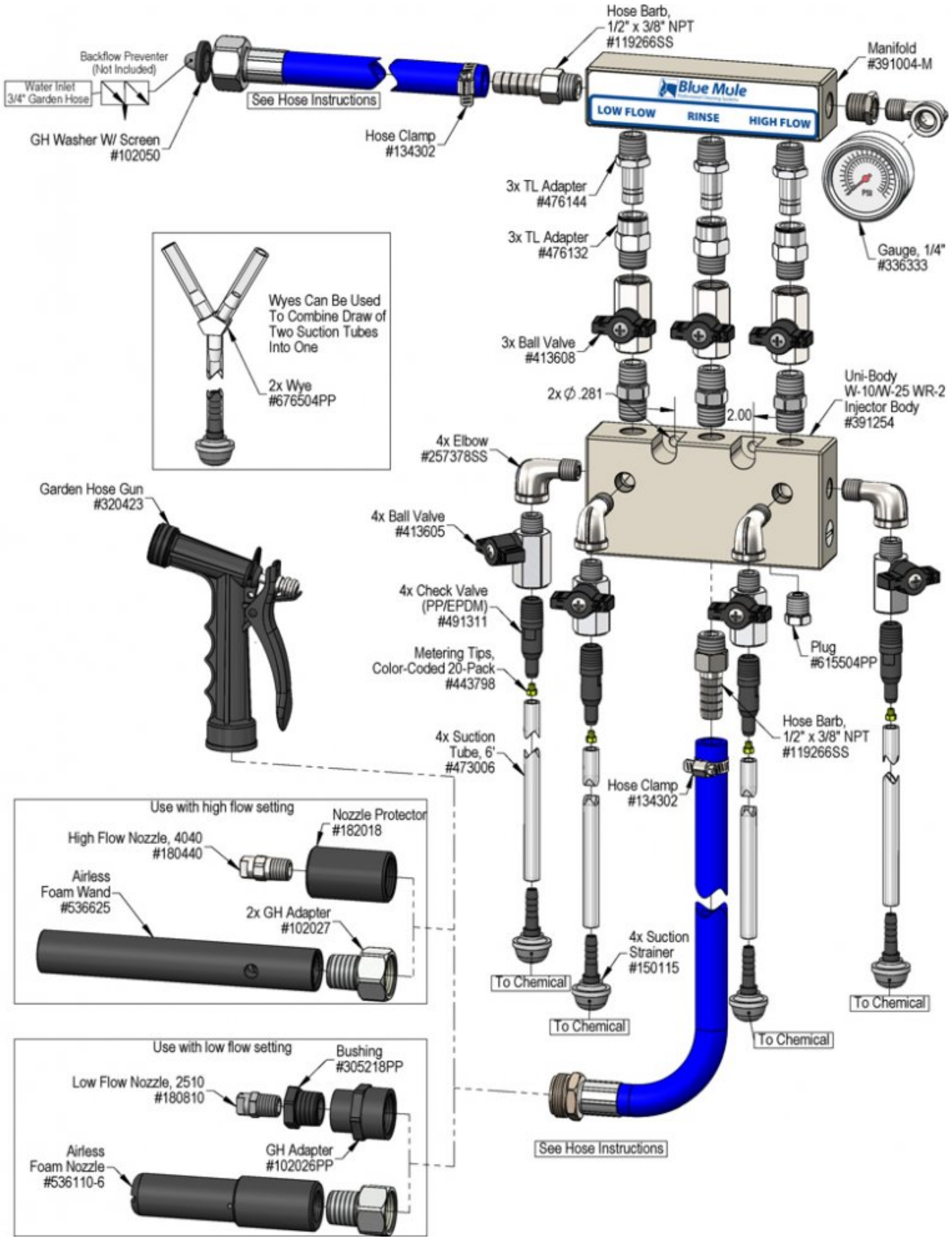
FORMULA

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	
	LOW FLOW	HIGH FLOW
40	0.40	1.34
50	0.45	1.50
60	0.49	1.64
70	0.53	1.77
80	0.57	1.90
90	0.60	2.01
100	0.63	2.12
110	0.66	2.22
120	0.69	2.32
125	0.71	2.37


Hose Barb, 1/2" x 3/8" NPT #119266SS
Manifold #391004-M
Backflow Preventer (Not Included)
Water Inlet 3/4" Garden Hose
See Hose Instructions
GH Washer W/ Screen #102050
Hose Clamp #134302
Blue Mule
LOW FLOW
RINSE
HIGH FLOW
3x TL Adapter #476144
3x TL Adapter #476132
Gauge, 1/4" #336333
Wyes Can Be Used To Combine Draw of Two Suction Tubes Into One
2x Wye #676504PP
3x Ball Valve #413608
2x Ø .281
2.00
Uni-Body W-10/W-25 WR-2 Injector Body #391254
4x Elbow #257378SS
Garden Hose Gun #320423
4x Ball Valve #413605
4x Check Valve (PP/EPDM) #491311
Metering Tips, Color-Coded 20-Pack #443798
Plug #615504PP
Hose Barb, 1/2" x 3/8" NPT #119266SS
4x Suction Tube, 6' #473006
Hose Clamp #134302
Use with high flow setting
Nozzle Protector #182018
High Flow Nozzle, 4040 #180440
Airless Foam Wand #536625
2x GH Adapter #102027
4x Suction Strainer #150115
To Chemical
To Chemical
To Chemical
To Chemical
Use with low flow setting
Bushing #305218PP
Low Flow Nozzle, 2510 #180810
Airless Foam Nozzle #536110-6
GH Adapter #102026PP
See Hose Instructions

Troubleshooting Guide

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Will not draw product	1, 5, 6, 7, 8, 10	11, 12, 13, 14, 15, 16, 17
B) Foam/Spray does not foam or clean properly	2, 4, 5, 7, 8, 9	10, 11, 12, 13, 14, 15, 16
C) Using too much product	3	
D) Water backing up into product container	10	

Possible Cause / Solution

Startup

1. **Inlet or product ball valve not completely open**
   - Completely open one inlet and one product ball valve.
2. **Not enough product - metering tip too small**
   - Install larger metering tip.
3. **No metering tip installed or metering tip too large**
   - Install smaller metering tip.
4. **Improper product or tube not immersed or product depleted**
   - Ensure product is recommended for foaming and the application
   - Immerse tube or replenish.
5. **Discharge hose too long or wrong size or kinked**
   - Straighten the hose or replace hose with correct size.
6. **Wrong foam wand or nozzle**
   - Low flow requires the short foam wand or the dark blue nozzle
   - High flow requires the longer foam wand or the light blue nozzle
7. **Water pressure or water volume too low/inlet piping too small causing poor product pick up**
   - Increase water pressure or water volume
8. **Soil has hardened on surface; always rinse before product dries**
   - Reapplication may be necessary.

Maintenance

10. **Product check valve stuck or failed**
    - Clean or replace.
11. **Product strainer or metering tip partially blocked**
    - Clean or replace product strainer and/or metering tip.
12. **Product tube stretched out or pin hole/cut in product tube**
    - Cut off end of tube or replace tube.
13. **Vacuum leak in product pick-up connections**
    - Tighten the connection.
14. **Water strainer clogged or missing/injector inlet orifice(s) clogged**
    - Clean or replace strainer;
    - In extreme cases disassemble the top manifold from the body and check/clean inlet orifice for obstructions. DO NOT DRILL OUT.
15. **Hard water scale or product build-up may have formed in the injector body causing poor or no product 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.
16. **Foam wand clogged or scaled up / wrong nozzle**
    - Hard water scale or product build-up may have formed, soak entire foam wand in de-scaling acid / see requirements.
17. **More than one inlet ball valve open or no product valve open**
    - 2 & 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.