

LAFFERTY EQUIPMENT MANUFACTURING, INC. Installation & Operation Instructions

Push Lever Mixing Stations

REQUIREMENTS

Water:

Supply line..... 1/2" I.D. minimum

Pressure range..... 35 to 100 PSI

Flow range:

Bottle Fill..... 0.64 to 1.10 GPM

Low Flow..... 1.64 to 2.70 GPM

High Flow..... 3.57 to 6.52 GPM

Temp. range..... Ambient to 160° F

OPTIONS

All Stainless Steel Accessories

- Jug Racks

- 1 Gallon

- Round..... # 224200

- Square..... # 224205

- 2 ½ Gallon (8 ½" x 10 ½")..... # 224210

- 5 Gallon (12" x 12")..... # 224215

#981100, 1-Way



#981200, 2-Way



#981300, 3-Way



#981400, 4-Way



**READ ALL
INSTRUCTIONS
BEFORE USING
EQUIPMENT**

www.LaffertyEquipment.com

501-851-2820



Safety & Operational Precautions

- **Manufacturer assumes no liability for the use or misuse of this unit.**
- **Backflow Prevention:** If you are connecting to a potable water supply, be sure to follow all local codes for backflow prevention.
- Wear protective clothing, gloves and eyewear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- Follow the chemical manufacturer's safe handling instructions.
- Depress only one push lever at a time.

PRINCIPLES OF OPERATION:

This is a venturi proportioner that will siphon chemical concentrates from any sized container up to 21 different dilution ratios using the supplied metering tips to provide a ready to use (RTU) chemical solution.

TO INSTALL *(Refer to diagram, next page.)*

1. Mount the unit to a suitable surface above chemical supply to prevent siphoning.
2. Connect the discharge tube(s) as shown in the diagram. **DO NOT TURN ON**
3. Connect the water supply. **DO NOT TURN ON**

To set the desired water to chemical dilution ratio you will have to select and install a metering tip into the chemical check valve.

For the strongest possible chemical dilution ratio, do not install a metering tip.

How to Select the Correct Metering Tip - See chemical label for dilution ratio recommendation or consult your chemical supplier.

- The dilution ratios provided in the *Metering Tip Selection Chart*, at right, are based on water-thin chemical.
 - Due to varying chemical viscosities, you may need to increase/decrease the metering tip size.
 - If you have water pressure other than the example, use the *Metering Tip Selection Formula*.
4. After metering tip is installed, push the chemical tube over the check valve and immerse the chemical strainer into your chemical concentrate.

TO OPERATE

1. While holding the discharge tube inside the container to be filled, completely depress the corresponding push lever. **Depress only one push lever at a time!**
2. When container is full, release the push lever. Allow the discharge tube to drain completely before removing it from the container.

Metering Tip Selection Chart				
Metering Tip Color	Oz. per Min.	Bottle Fill	Low Flow	High Flow
		EXAMPLE: Dilution Ratio (40 PSI)		
Brown	.84	119:1	274:1	610:1
Clear	1.16	86:1	199:1	441:1
Bright Purple	1.4	71:1	165:1	366:1
White	2.0	50:1	115:1	256:1
Pink	2.7	37:1	85:1	190:1
Corn Yellow	3.4	29:1	68:1	151:1
Dark Green	4.0	25:1	58:1	128:1
Orange	5.3	19:1	43:1	97:1
Gray	6.1	16:1	38:1	84:1
Light Green	7.0	14:1	33:1	73:1
Med. Green	8.5	12:1	27:1	60:1
Clear Pink	9.2	11:1	25:1	56:1
Yellow Green	11.2	9:1	21:1	46:1
Burgundy	12.5	8:1	18:1	41:1
Pale Pink	12.9	7.7:1	18:1	40:1
Light Blue	14.2	7.0:1	16:1	36:1
Dark Purple	17.6	5.7:1	13:1	29:1
Navy Blue	21.4	4.7:1	11:1	24:1
Clear Aqua	30.2	4.34:1	8:1	17:1
Black	40.4	4.34:1	6:1	13:1
No Tip	—	4.34:1	5.7:1	8.6:1

The dilution ratios provided above are approximate values. Your actual dilution ratio may be higher or lower due to variation in chemical viscosity.

Metering Tip Selection Formula

$$(\text{GPM} \times 128) \div \text{Dilution Ratio} = \text{Oz. per Min.}$$

↑	↑	↑
See chart above for GPM and convert to oz. per min.	100:1, 250:1, etc.	Match to nearest number in the chart below.

Water Flow Rate Chart

Water Pressure	Bottle Fill	Low Flow	High Flow
PSI	Gallons Per Minute (GPM)		
30	.64	1.64	3.57
40	.78	1.80	4.00
50	.84	1.95	4.42
60	.88	2.10	4.90
70	.93	2.25	5.32
80	1.00	2.40	5.70
90	1.05	2.55	6.10
100	1.10	2.70	6.52

2-WAY SHOWN

Drawing not "to scale".

Water Inlet
35 – 100 PSI
(1/2" I.D. minimum)

Washer, w/Screen
#102050

Push Lever Valve
#416305

Backflow Preventer
#273413

Adapter
#102020

Mixing Station Injector Body
#366470-High Flow (HF)
#366473-Low Flow (LF)
#366476-Bottle Fill (BF)

St. Elbow
#257379

Metering Tip Holder
#491308

Metering Tips,
Color Coded (20 pk)
#443798

Chemical Tube, 6'
#473006

Tube Weight
#475100

Foot Valve / Strainer
#150122

Discharge Tube, 4.5'
#473300FT

Troubleshooting Guide

Push Lever Mixing Stations

PROBLEMS	Possible Cause / Solution	
	Startup	Maintenance
A) Unit will not draw chemical.	1, 2, 3, 4, 6	7, 8, 9, 10, 13
B) Dilution too weak.	1, 4	12
C) Using too much chemical.	5	
D) Backflow preventer constantly dripping/leaking.		11
E) Water backing up into chemical container.		12

Possible Cause / Solution

Startup	Maintenance
<ol style="list-style-type: none"> Water pressure too low or water temperature too high <ul style="list-style-type: none"> • 35 PSI water pressure minimum. Push lever not completely depressed <ul style="list-style-type: none"> • Completely depress the push lever. More than one push lever is depressed <ul style="list-style-type: none"> • Depress only one push lever at a time. Not enough chemical - Metering tip too small <ul style="list-style-type: none"> • Install larger metering tip. No metering tip installed or metering tip too large <ul style="list-style-type: none"> • Install smaller metering tip. Chemical tube not immersed in chemical or chemical depleted <ul style="list-style-type: none"> • Immerse tube or replenish. 	<ol style="list-style-type: none"> Water strainer screen clogged <ul style="list-style-type: none"> • Clean the water strainer screen. Chemical strainer or metering tip partially blocked <ul style="list-style-type: none"> • Clean or replace chemical strainer and/or metering tip. Chemical tube stretched out where tube slides over metering tip holder or pin hole/cut in chemical tube (sucking air in) <ul style="list-style-type: none"> • Cut off end of tube or replace tube. Vacuum leak in chemical pick-up connections <ul style="list-style-type: none"> • Tighten the connection. Backflow preventer failed or defective <ul style="list-style-type: none"> • Replace backflow preventer. Chemical check valve stuck or failed <ul style="list-style-type: none"> • Clean or replace. Chemical build-up may have formed in the body causing poor or no chemical pick-up <ul style="list-style-type: none"> • Follow Preventive Maintenance instructions below, using hot water and/or descaling acid. <p>When there is no draw at all carefully remove fittings and soak entire body in descaling acid.</p>

PREVENTIVE MAINTENANCE: When the unit will be out of service for extended periods, remove chemical tube from chemical concentrate and place it in water. Completely depress each push lever (separately) for several seconds to flush chemical and help prevent chemical build-up. Check and/or clean chemical strainer; replace if missing.