

LAFFERTY EQUIPMENT MFG., INC. INSTALLATION / OPERATION INSTRUCTIONS **BALL VALVE CHEMICAL MIXING STATIONS**

Requirements

25 – 100 PSI Water

Water Temperature

Ambient – 140° F

MODEL # 985100



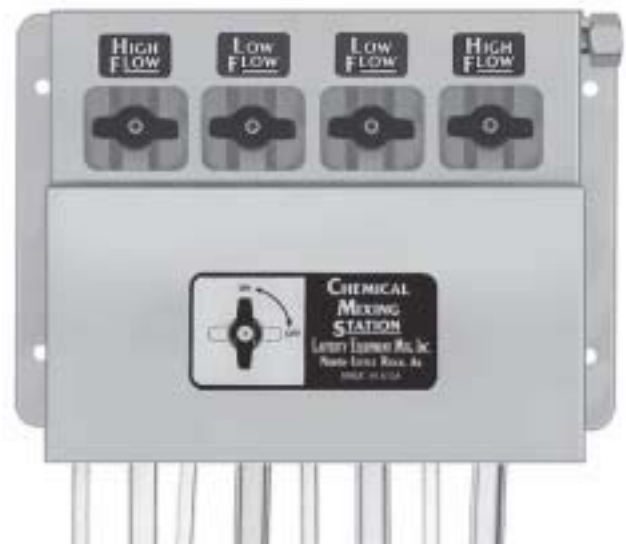
MODEL # 985200



MODEL # 985300



MODEL # 985400



OPTIONS

- Fresh Water Outlet
- 10' Water Supply Hose
- Available in Low Flow, High Flow, Bottle Fill or Your Preferred Combination
 - Color-coded Ball Valve Handles — Yellow or Red (Black is Standard)

Ask About Our Push Lever Chemical Mixing Stations

INSTALLATION AND OPERATION INSTRUCTIONS BALL VALVE CHEMICAL MIXING STATIONS

PRECAUTIONS

Prior to use, **ALWAYS** thoroughly read and understand the Safety Data Sheet supplied with the chemical you are using. (Check with chemical supplier if necessary.)

NEVER use chemicals that are not compatible if accidentally mixed.

ALWAYS wear protective clothing, gloves and eye wear when dispensing any chemical which is hazardous or corrosive. Fill only approved chemical resistant containers.

NEVER put a shut-off on the discharge tube (this will cause the tube to blow off of the barbs).

*Metering tips control your chemical to water dilution ratio. You will find them stapled to these instructions with a matching color-coded chart. Use these instructions and the charts at the bottom of the page to determine which **color** tip to install.*

- a) What is your water pressure? _____
- b) How many ounces of chemical do you want per gallon of water? _____
- c) Is your chemical thin or thick? _____

- A. Locate your **water pressure** in the table. The number below it is your **water flow rate in gallons per minute**.
- B. Multiply your **water flow rate** by the desired **number of ounces of chemical per gallon of water**.
- C. Match your answer to the *nearest* number in the metering tip selection chart below to determine the tip color.
- D. Snap **#17A** off by inserting thumbs in each bottom corner. Pull corners out and up, sliding cover upward and out to remove. **Screw correct #12** into **#11** for *each* injector on 2, 3, and 4 Way stations (see parts diagram on facing page).

***NOTE:** If water pressure is unknown— first make certain **#14** is *not* in chemical concentrate, then place **#15** in measuring container and fully open appropriate **#5** on station for one minute. Next, close **#5** and measure collected water in ounces.

TO INSTALL (See Parts Diagram, Facing Page)

1. Securely mount the mixing station to a suitable surface near a water faucet.
2. Connect your water supply to **#1**.
3. Make sure **#12** is installed in **#11**. Push **#13** over **#11** and immerse **#13** and **#14** into chemical concentrate. Next, push **#15** over **#9**. Repeat for each injector on 2, 3 and 4 Way stations.

4. Replace **#17A**.

Note: #15 may be shortened to a minimum of 8" for convenient filling of smaller containers.

TO OPERATE *Open only one ball valve at a time.*

1. Take **#15** in hand; hold inside container to be filled.
2. Completely open appropriate **#5** on station and fill container.
3. After filling the container, completely close **#5**.
4. Before removing **#15** from container, allow tube to drain completely.

SUGGESTION: Create and attach corresponding labels to station for easy chemical identification and/or install optional color-coded ball valve handles.

EXAMPLE OF METERING TIP SELECTION

Low Flow Station at 40 PSI

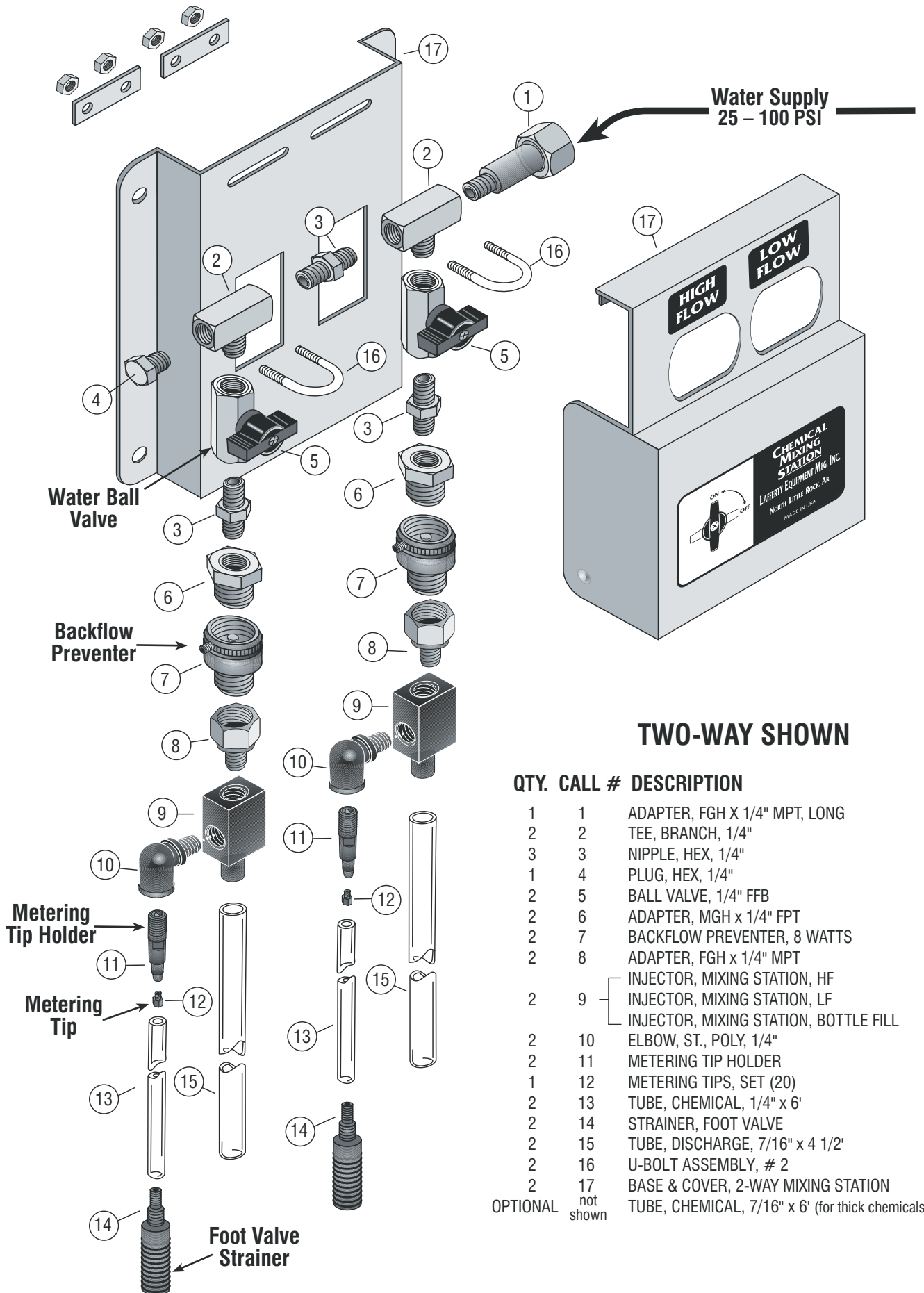
- 40 PSI = 1.8 GPM
- 4 oz. of chemical per gallon of water
- $1.8 \times 4 = 7.2$
 $7.2 \cong 7.0$ for thin chemical (light green tip)
 or $\cong 7.5$ for thick chemical (medium green tip)

WATER PRESSURE	30 PSI	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI
LF WATER FLOW RATE	1.64 GPM	1.8 GPM	1.95 GPM	2.1 GPM	2.25 GPM	2.4 GPM	2.55 GPM
HF WATER FLOW RATE	3.57 GPM	4.0 GPM	4.42 GPM	4.9 GPM	5.32 GPM	5.7 GPM	6.1 GPM
BOTTLE FILL RATE	0.64 GPM	0.78 GPM	0.84 GPM	0.88 GPM	0.93 GPM	1.00 GPM	1.05 GPM

The two rows of numbers under each color in the chart below represent the **average ounces of chemical per minute** which will pass through the tip.

METERING TIP SELECTION IN OUNCES PER MINUTE (AVERAGE)																				
COLOR	Brown	Clear	Bright Purple	White	Pink	Corn Yellow	Dark Green	Orange	Gray	Light Green	Medium Green	Clear Pink	Yellow Green	Burgundy	Pale Pink	Light Blue	Dark Purple	Navy Blue	Clear Aqua	Black
Thin Chemical	0.84	1.16	1.4	2.0	2.7	3.4	4.0	5.3	6.1	7.0	8.5	9.2	11.2	12.5	12.9	14.2	17.6	21.4	30.2	40.4
Thick Chemical	0.30	0.50	0.70	1.0	1.4	2.0	3.0	3.8	4.5	6.0	7.5	8.0	10.1	10.7	11.5	12.0	13.5	16.0	26.7	36.6

BALL VALVE CHEMICAL MIXING STATION



QTY.	CALL #	DESCRIPTION	PART #
1	1	ADAPTER, FGH X 1/4" MPT, LONG	102010
2	2	TEE, BRANCH, 1/4"	690488
3	3	NIPPLE, HEX, 1/4"	429686
1	4	PLUG, HEX, 1/4"	615477
2	5	BALL VALVE, 1/4" FFB	413602
2	6	ADAPTER, MGH x 1/4" FPT	102037
2	7	BACKFLOW PREVENTER, 8 WATTS	273414
2	8	ADAPTER, FGH x 1/4" MPT	102020
2	9	INJECTOR, MIXING STATION, HF	366470
2	9	INJECTOR, MIXING STATION, LF	366473
2	9	INJECTOR, MIXING STATION, BOTTLE FILL	366476
2	10	ELBOW, ST., POLY, 1/4"	257379
2	11	METERING TIP HOLDER	491308
1	12	METERING TIPS, SET (20)	443798
2	13	TUBE, CHEMICAL, 1/4" x 6'	473006
2	14	STRAINER, FOOT VALVE	150121
2	15	TUBE, DISCHARGE, 7/16" x 4 1/2'	473304
2	16	U-BOLT ASSEMBLY, # 2	392479
2	17	BASE & COVER, 2-WAY MIXING STATION	222106
OPTIONAL	not shown	TUBE, CHEMICAL, 7/16" x 6' (for thick chemicals)	473306

TROUBLE SHOOTING GUIDE

for

BALL VALVE CHEMICAL MIXING STATIONS

PROBLEMS	POSSIBLE CAUSE/SOLUTION											
	1	2	3	4	5	6	7	8	9	10	11	12
A. Station draws little or no chemical.	•	•	•	•		•	•	•	•		•	•
B. Station draws too much chemical.					•							
C. Little or no discharge from station.	•	•					•		•			•
D. Station does not shut off or is dripping/leaking.										•		

POSSIBLE CAUSE / SOLUTION

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. No water to station — Make sure incoming water supply valve is open. 2. Low water pressure — Increase water pressure; must be a minimum of 25 PSI when one #5 is open. 3. Chemical tube not immersed in chemical or chemical depleted — Immerse #13 or replenish chemical. 4. Strainer/foot valve blocked — Clean or replace #14. 5. No metering tip or tip too large — Install correct #12 or replace with smaller #12. 6. Metering tip blocked or too small — Clean or replace with larger #12. 7. Injector inlet blocked — Soak in hot water and/or clean inlet port; do <i>not</i> drill or gouge out port. 8. Chemical too thick — acquire 7/16" pickup tube (order Lafferty part # 474749). 9. Ball valve not completely open — Completely open #5. 10. Ball valve or backflow preventer defective — Replace #5 and/or #7. | <ol style="list-style-type: none"> 11. Vacuum leak in chemical pick up assembly: <ol style="list-style-type: none"> A) Where chemical tube connects to metering tip holder — Cut off stretched end of #13 and reconnect. B) Where metering tip holder screws into elbow or where elbow screws into injector body — Tighten connection; or disassemble, wrap threads with teflon tape, and reconnect. C) Pin hole or cut in chemical tube — Replace #13. 12. Water scale or chemical build-up may have formed inside the injector(s): <p>To descale, place #13 in descaling acid and completely open appropriate #5 on the station. Once #13 is filled, close #5, then elevate both #13 and #15. Allow sufficient time for acid to descale. Repeat steps for each #9 as needed.</p> <p>In extreme cases, carefully disassemble station and soak each #9 in descaling acid.</p> |
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