

| Troubleshooting Chart:                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Problem                                                                                                                                                                                                                                                                                                                                                                                                                    | Cause                                                                                                                                                                                                                                                                                                                                                                                      | Remedy                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1 Little or no concentrate draw, foam too wet                                                                                                                                                                                                                                                                                                                                                                              | a. Concentrate container empty<br><br>b. Air pressure too high (best at ~5-10 psi less than water pressure)<br><br>c. Eductor bypassed<br><br>d. Check valve not screwed into eductor tightly<br><br>e. Clogged check valve<br>f. Metering tip or eductor clogged<br><br>g. Clogged foot strainer<br><br>h. Chemical too lean<br><br>i. Discharge hose too narrow<br>j. Low water pressure | a. Replace with full container<br><br>b. Make sure air valve is on and discharge is open. Pull up on air regulator knob and turn to decrease pressure<br><br>c. Make sure rinse and other water valves are in the off position<br>d. Tighten<br><br>e. Clean or replace<br>f. Clean (descale) or replace *<br><br>g. Clean or replace<br><br>h. Install larger metering tip<br><br>i. Use 3/4" ID discharge hose as supplied<br>j. Minimum 25 psi required to operate unit |
| 2 Foam too dry                                                                                                                                                                                                                                                                                                                                                                                                             | a. Air pressure too high (best at ~5-10 psi less than water pressure)<br><br>b. Chemical too rich<br>c. Water pressure too low                                                                                                                                                                                                                                                             | a. Make sure air valve is on and discharge is open. Pull up on air regulator knob and turn to decrease pressure<br><br>b. Install smaller metering tip<br>c. Increase water pressure                                                                                                                                                                                                                                                                                       |
| 3 Excess concentrate draw                                                                                                                                                                                                                                                                                                                                                                                                  | a. Metering tip not in place                                                                                                                                                                                                                                                                                                                                                               | a. Push tip firmly into eductor hose barb                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4 Foam jet gun kicks in hand                                                                                                                                                                                                                                                                                                                                                                                               | a. Discharge hose too long<br><br>b. Discharge hose too narrow<br><br>c. Water pressure too high                                                                                                                                                                                                                                                                                           | a. Use maximum of 50' of 3/4" ID hose<br><br>b. Use 3/4" ID discharge hose as supplied<br><br>c. Reduce water pressure                                                                                                                                                                                                                                                                                                                                                     |
| 5 Low or no water flow                                                                                                                                                                                                                                                                                                                                                                                                     | a. Backflow preventer screen clogged<br><br>b. Water inlet screen clogged<br><br>c. Supply source inadequate<br><br>d. Scale build-up on eductor or fittings                                                                                                                                                                                                                               | a. Check backflow preventer screen for debris and clean twice yearly<br>b. Clean inlet screen<br><br>c. 5 GPM inlet flow required. Move unit to adequate source or re-plumb incoming line<br>d. Clean or replace *                                                                                                                                                                                                                                                         |
| 6 Backflow into concentrate                                                                                                                                                                                                                                                                                                                                                                                                | a. Eductor check valve inoperable                                                                                                                                                                                                                                                                                                                                                          | a. Replace check valve                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7 No air                                                                                                                                                                                                                                                                                                                                                                                                                   | a. Air regulator too low or off<br><br>b. No compressed air                                                                                                                                                                                                                                                                                                                                | a. Make sure air valve is on and discharge is open. Pull up on air regulator knob and turn to increase pressure<br><br>b. Hook up compressed air line (300 psi max)                                                                                                                                                                                                                                                                                                        |
| 8 Leaking                                                                                                                                                                                                                                                                                                                                                                                                                  | a. Seals worn on hose fittings<br>b. Loose pipe fittings                                                                                                                                                                                                                                                                                                                                   | a. Replace gaskets<br>b. Tighten surrounding pipe joints                                                                                                                                                                                                                                                                                                                                                                                                                   |
| * In hard water areas, scale may form at the discharge of the eductor or other fittings. This scale may be removed by soaking in a descaling (deliming) solution or by running the descaling solution through the system. If descaling solution is educted through unit, let it run through unit for a minute, then flush the system by educting clear water through it. Then return suction tube strainer to concentrate. |                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |



FoamMaster Model 897  
Compressed Air Power Cleaning System

Package Contains:

1. FoamMaster unit

2. Metering tip kit

3. Suction tube, 7 ft.
4. Ceramic weight

5. Foot strainer

6. Mounting hardware kit
7. Instruction sheet

8. Discharge shut off/nozzle head assy.

9. Discharge hose, 25'

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS

Please use this equipment carefully and observe all warnings and cautions.

\*\*\*\*\*NOTE \*\*\*\*\*

WEAR

protective clothing and eyewear when dispensing chemicals or other materials or when working in the vicinity of all chemicals, filling or emptying equipment, or changing metering tips.

ALWAYS

observe safety and handling instructions of the chemical manufacturer.

direct discharge away from you or other persons or into approved containers.

dispense cleaners and chemicals in accordance with manufacturer's instructions. Exercise CAUTION when maintaining your equipment.

reassemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position.

ATTACH

only to tapwater outlets (85 PSI maximum)

KEEP

equipment clean to maintain proper operation.

Installation:

- If unfamiliar with component names, see parts diagram on page 3.
1. Attach the unit to a wall or other structure, using anchors and screws provided.

2. Select a metering tip (#24) using the chart at right as a guideline and push it firmly into the check valve hose barb (#21).

3. Push one end of the supply tubing (#28) over hose barb/metering tip. Cut tubing to appropriate length so that the end can reach the bottom of the concentrate container.

4. Slide the ceramic weight over (#28) the newly cut end of the tube. Secure the strainer (#35) to the same end of the suction tube. The strainer end of the suction tube can be dropped directly into the concentrate container.

5. Connect the FoamMaster to the water supply through an adjustable pressure regulator to allow best operation and foam quality. Connect the regulated water supply to the (#32) water inlet at the bottom of the FoamMaster.

NOTE: Do not remove water inlet check valve (#32) or strainer washer (#34). They are essential to proper operation.

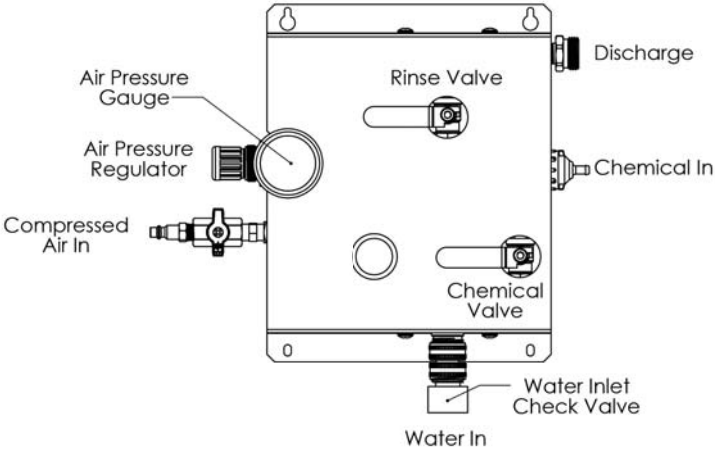
6. Connect a compressed air line to the quick fitting supplied on the left side of the FoamMaster (#1).

NOTE: Maximum air pressure should not exceed 300 psi.

7. Connect the discharge hose to the manifold outlet at the top right of the unit. (#15)

8. Attach nozzle head assembly (#36) to end of the discharge hose.

| APPROXIMATE DILUTIONS @ 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP) |              |                    |       |
|-----------------------------------------------------------------|--------------|--------------------|-------|
| Tip Color                                                       | Orifice Size | Std. Drill Number) | Ratio |
| No Tip                                                          | .187         | (3/16)             | 5.5:1 |
| Gray                                                            | .128         | (30)               | 5.5:1 |
| Black                                                           | .098         | (40)               | 5.5:1 |
| Beige                                                           | .070         | (50)               | 6.5:1 |
| Red                                                             | .052         | (55)               | 10:1  |
| White                                                           | .043         | (57)               | 14:1  |
| Blue                                                            | .040         | (60)               | 17:1  |
| Tan                                                             | .035         | (65)               | 20:1  |
| Green                                                           | .028         | (70)               | 34:1  |
| Orange                                                          | .025         | (72)               | 41:1  |
| Brown                                                           | .023         | (74)               | 52:1  |
| Yellow                                                          | .020         | (76)               | 68:1  |
| Aqua                                                            | .018         | (77)               | 77:1  |
| Purple                                                          | .014         | (79)               | 134:1 |
| Pink                                                            | .010         | (87)               | 241:1 |



Operation:

1. As shown in diagram on page 1, the FoamMaster has a shut-off valve for the compressed air line, an air pressure regulator with a gauge, a foam chemical valve, and a rinse valve. The discharge valve assembly larger nozzle opening is typically to be used in the foaming operation, the smaller for the rinse. Switching between both nozzles is easy using the quick disconnect coupler. These controls all play a part in the proper operation of the FoamMaster.
2. Begin by opening the compressed air supply valve (#2) and the chemical valve (rinse valve should be off). Pull left to pop out the knob on the air regulator (#5). Adjust the air regulator so that the air pressure gauge reads approximately 40 PSI while air, water, and chemical is flowing. Water supply should be regulated to approximately 45 PSI. Now adjust air and water to produce desired foam quality.
3. After the cleaning process is complete make sure to close the air, rinse and chemical ball valves on the unit.
4. **Foam character adjustment:**  
The nature of the foam can be varied by changing the amount of concentrate drawn, water pressure and/or air pressure. Different products will perform differently in the FoamMaster due to viscosity, foaming nature, etc.

a) A larger diameter metering tip increases concentration, creating a thicker, richer foam. Larger diameter also helps reduce bucking of discharge.

b) More air pressure tends to deliver thicker, drier foam and will increase throw of foam. However, it can destroy foam quality if concentration of the product is too low.

c) Lower water pressure tends to create drier foam.
5. **Rinsing:**  
Rinsing is accomplished by turning off the air and product supply valve, then opening the rinse valve of the unit. To change the nozzle position, pull back on the quick disconnect below the nozzle, switching to the smaller opening of the nozzle head. This stops the draw of concentrate and offers full water flow for rinsing.

Measurement of Concentration:

Final dilution is related to the size of the orifice in the metering tip used and product viscosity. The ratio is also affected by water pressure, temperature and flow rate. You can determine the dispensed water-to-product ratio for any metering tip size and product viscosity. All that is required is to operate the primed dispenser for a minute or so and note two things; the amount of dispensed water-to-product solution and the amount of concentrate used in preparation of the solution dispensed. The water-to-product ratio is then calculated as follows:

Dilution (X) = Amount of Mixed Solution Dispensed — Amount of Concentrate Drawn

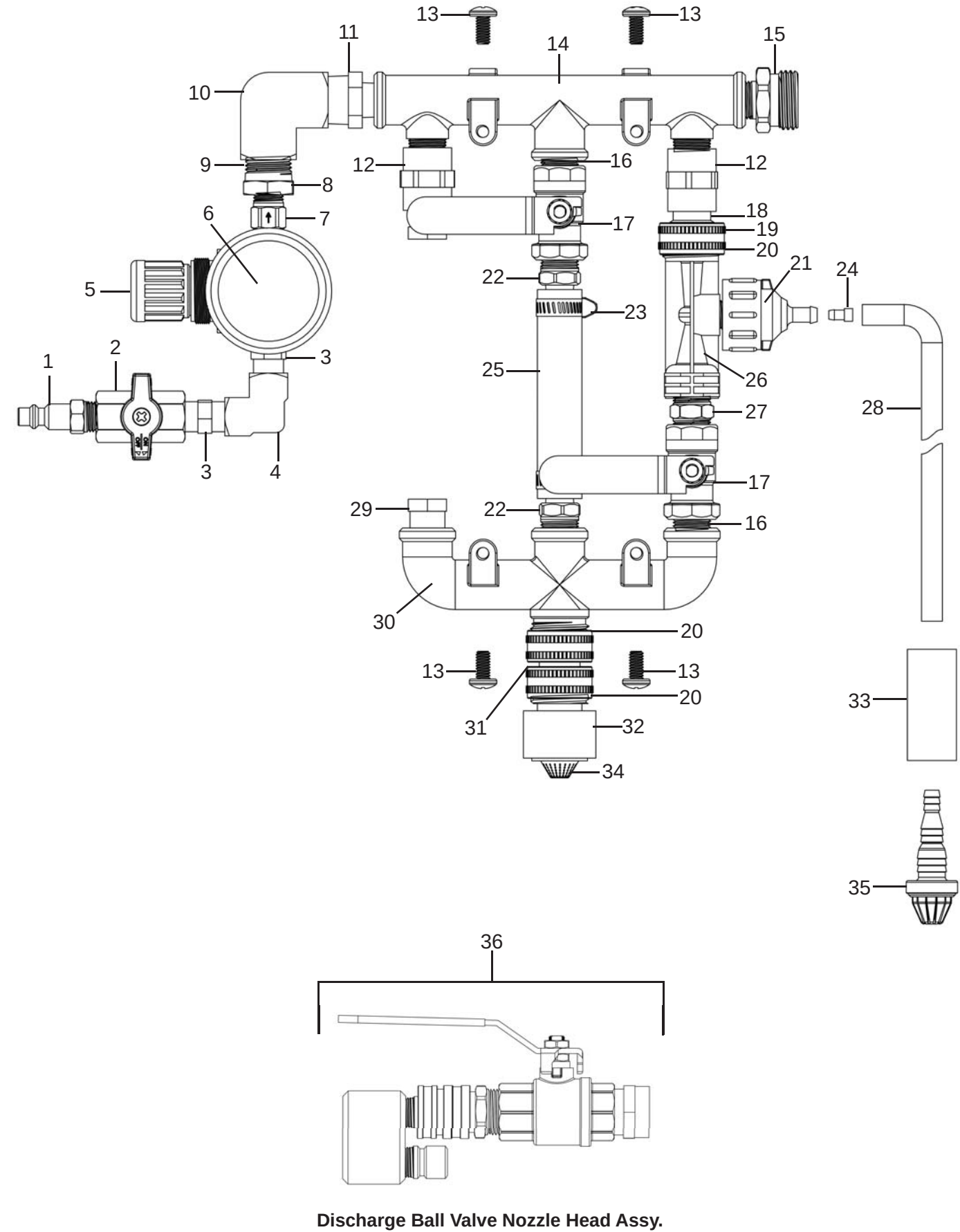
Amount of Concentrate Drawn

Dilution ratio, then, equals X parts water to one part concentrate (X:1). If the test does not yield the desired ratio, choose a different tip and repeat the test. Alternative methods to this test are 1) pH (using litmus paper), and 2) titration. Contact your concentrate supplier for further information on these alternative methods and the materials required to perform them.

Parts List:

| KEY | PART #   | DESCRIPTION               | KEY                                                            | PART #   | DESCRIPTION               |
|-----|----------|---------------------------|----------------------------------------------------------------|----------|---------------------------|
| 1   | 419342   | 1/4" MPT Air Coupler      | 25                                                             | 90022600 | Hose, 1/2" ID, short      |
| 2   | 502000   | Ball Valve                | 26                                                             | 440900   | Eductor,dark green 1.2GPM |
| 3   | 234300   | Brass Hex Nipple 1/4 MP   | 27                                                             | 470100   | Hex nipple, 3/8" NPT      |
| 4   | 506000   | Elbow, 1/4" FNPT PL       | 28                                                             | 500870   | Tubing, 1/4" x 7'         |
| 5   | 503400   | Air Regulator             | 29                                                             | 323338   | Pipe plug, 3/8" NPT       |
| 6   | 10097704 | Press. Gauge, 2"          | 30                                                             | 10091710 | Manifold, bottom          |
| 7   | 10088330 | Check Valve               | 31                                                             | 607900   | Swivel, Hose, double 3/4" |
| 8   | 2330-R   | Bushing                   | 32                                                             | 10035311 | V3 Check Valve            |
| 9   | 419301   | Nozzle, H1(hidden)        | 33                                                             | 509900   | Ceramic weight            |
| 10  | 506900   | Elbow, 1/2" FNPT PL       | 34                                                             | 238100   | Strainer, Washer          |
| 11  | 393100   | Reducer, 1/2" x 3/8" male | 35                                                             | 90064415 | Foot strainer             |
| 12  | 412800   | Coupler, 3/8" FNPT        | 36                                                             | 10088356 | Discharge Ball Valve      |
| 13  | 10084025 | Screw, 1/4 - 20 by 1/2"   | NOT SHOWN:<br>10097703      Cover<br>133      Hose, 3/4" x 25' |          |                           |
| 14  | 10091700 | Manifold, Top             |                                                                |          |                           |
| 15  | 328900   | Adapter,MGH x 3/8" MNPT   |                                                                |          |                           |
| 16  | 10027700 | Nipple, 3/8" close        |                                                                |          |                           |
| 17  | 10084020 | Ball Valve,3/8",Brass     |                                                                |          |                           |
| 18  | 276801   | Swivel stem               |                                                                |          |                           |
| 19  | 506502   | Swivel nut                |                                                                |          |                           |
| 20  | 270700   | Washer                    |                                                                |          |                           |
| 21  | 10069270 | Check Valve Viton 1/4"    |                                                                |          |                           |
| 22  | 326000   | Hose barb 1/2" x 3/8" NPT |                                                                |          |                           |
| 23  | 608300   | Hose clamp, large         |                                                                |          |                           |
| 24  | 690014   | Metering Tip Kit          |                                                                |          |                           |

FoamMaster Model 897 Parts Diagram/List



Discharge Ball Valve Nozzle Head Assy.