

Troubleshooting Chart:

Problem	Cause	Remedy
1 Little or no concentrate draw, foam too wet	a. Concentrate container empty b. Air pressure too high (best at ~5-10 psi less than water pressure) c. Eductor bypassed d. Check valve not screwed into eductor tightly e. Clogged check valve f. Metering tip or eductor clogged g. Clogged foot strainer h. Chemical too lean i. Discharge hose too narrow j. Low water pressure	a. Replace with full container b. Make sure air valve is on and discharge is open. Pull up on air regulator knob and turn to decrease pressure c. Make sure rinse and other water valves are in the off position d. Tighten e. Clean or replace f. Clean (descale) or replace * g. Clean or replace h. Install larger metering tip i. Use 3/4" ID discharge hose as supplied 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) b. Chemical too rich 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 b. Install smaller metering tip 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 b. Discharge hose too narrow c. Water pressure too high	a. Use maximum of 50' of 3/4" ID hose b. Use 3/4" ID discharge hose as supplied c. Reduce water pressure
5 Low or no water flow	a. Backflow preventer screen clogged b. Water inlet screen clogged c. Supply source inadequate d. Scale build-up on eductor or fittings	a. Check backflow preventer screen for debris and clean twice yearly b. Clean inlet screen c. 5 GPM inlet flow required. Move unit to adequate source or re-plumb incoming line 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 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 b. Hook up compressed air line (300 psi max)
8 Leaking	a. Seals worn on hose fittings b. Loose pipe fittings	a. Replace gaskets 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 899
Compressed Air Power Cleaning System**

Package Contains:

- | | | |
|--------------------------|--------------------------|---|
| 1. FoamMaster unit | 4. (2) Ceramic weights | 7. Instruction sheet |
| 2. (2) Metering tip kits | 5. (2) Foot strainers | 8. Discharge shut off/nozzle head assy. |
| 3. Suction tube, 14 ft. | 6. Mounting hardware kit | 9. Discharge hose, 25' |

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS

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

*****NOTE*****

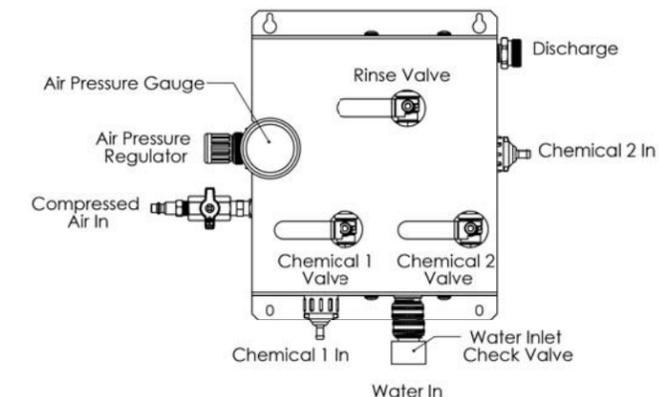
WEAR	protective clothing and eyewear when dispensing chemicals or other materials or when working in the vicinity of all chemicals, filling or emptying equipment, or changing metering tips.
ALWAYS	observe safety and handling instructions of the chemical manufacturer. direct discharge away from you or 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.

- Attach the unit to a wall or other structure, using anchors and screws provided.
 - Select a metering tip (#25) using the chart at right as a guideline and push it firmly into the check valve hose barb (#21) and (#32).
 - 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.
 - Slide the ceramic weight over (#28) the newly cut end of the tube. Secure the strainer (#38) to the same end of the suction tube. The strainer end of the suction tube can be dropped directly into the concentrate container.
 - Repeat for other check valve.
 - 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 (#35) water inlet at the bottom of the FoamMaster.
- NOTE: Do not remove water inlet check valve (#35) or strainer washer (#36). They are essential to proper operation.**
- 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.** Connect the discharge hose to the manifold outlet at the top right of the unit. (#15)
 - Attach nozzle head assembly (#39) 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:

- 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, two foam chemical valves, 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.
- Begin by opening the compressed air supply valve (#2) and only one 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 one of the chemicals is flowing. Water supply should be regulated to approximately 45 PSI. Now adjust air and water to produce desired foam quality.
NOTE: Opening both chemical valves will reduce foam quality.
- After the cleaning process is complete make sure to close the air, rinse and both chemical ball valves on the unit.
- 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 larger diameter metering tip increases concentration, creating a thicker, richer foam. Larger diameter also helps reduce bucking of discharge.
 - 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.
 - Lower water pressure tends to create drier foam.
- Rinsing:**
Rinsing is accomplished by turning off the air and product supply valves, 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:

$$\text{Dilution (X)} = \frac{\text{Amount of Mixed Solution Dispensed} - \text{Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$$

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	690014	Metering Tip Kit
2	502000	Ball Valve	26	440900	Eductor, dark green 1.2GPM
3	234300	Brass Hex Nipple 1/4 MP	27	90022600	Hose, 1/2" ID, short
4	506000	Elbow, 1/4" FNPT PL	28	500814	Tubing, 1/4" x 14'
5	503400	Air Regulator	29	470100	Hex nipple, 3/8" NPT
6	10097704	Press. Gauge, 2"	30	10053300	Hose clamp, small
7	10088330	Check Valve	31	10088309	Tube, Braided PVC
8	2330-R	Bushing	32	10069275	Check valve, inline 1/4" viton
9	419301	Nozzle, H1(hidden)	33	10091710	Manifold, bottom
10	506900	Elbow, 1/2" FNPT PL	34	607900	Swivel, Hose, double 3/4"
11	393100	Reducer, 1/2" x 3/8" male	35	10035311	V3 Check Valve
12	412800	Coupler, 3/8" FNPT	36	238100	Strainer, Washer
13	10084025	Screw, 1/4 - 20 by 1/2"	37	509900	Ceramic weight
14	10091700	Manifold, Top	38	90064415	Foot strainer
15	328900	Adapter, MGH x 3/8" MNPT	39	10088356	Discharge Ball Valve
16	10027700	Nipple, 3/8" close			Nozzle Head Assembly
17	10084020	Ball Valve, 3/8", Brass			
18	276801	Swivel stem			
19	506502	Swivel nut	NOT SHOWN:		
20	270702	Washer	10097703	Cover	
21	10069270	Check Valve Viton 1/4"	133	Hose, 3/4" x 25'	
22	326000	Hose barb 1/2" x 3/8" NPT			
23	10077500	Angled barb			
24	608300	Hose clamp, large			

FoamMaster Model 899 Parts Diagram/List

