

Troubleshooting Guide:

Problem	Cause	Solution
1. No discharge	a. No water b. Magnetic valve not functioning c. Excessive water pressure d. Eductor clogged	a. Open water supply b. Install valve parts kit c. Install regulator if water pressure exceeds 85 PSI d. Clean* or replace
2. No concentrate draw	a. Clogged foot stainer b. Metering tip or eductor has scale build-up c. Low water pressure d. Discharge tube and/or flooding ring not in place e. Concentrate container empty f. Check valve not screwed into eductor tightly g. Clogged water inlet strainer h. Air leak between tee and pick-up tubing	a. Clean or replace b. Clean (descale)* or replace c. Minimum 25 PSI (with water running) required to operate unit properly d. Push tube firmly onto eductor discharge hose barb, or replace tube if it doesn't have a flooding ring e. Replace with full container f. Tighten, but do not overtighten g. Disconnect inlet water line and clean strainer h. Be sure tubing is secured on tee barbs: try clamps on tee barbs, or replace tee
3. Excess concentrate draw	a. Metering tip not in place	a. Press correct tip firmly into barb on eductor
4. Failure of unit to turn off	a. Water valve parts dirty or defective b. Magnet doesn't fully return c. Push button stuck d. Excessive water pressure	a. Clean* or replace with valve parts kit b. Make sure magnet moves freely. Replace spring if short or weak c. Realign cabinet or clean grommet that button passes through d. Install regulator if pressure exceeds 85 PSI
5. Supply water in concentrate or unit won't hold prime	a. Check valve inoperable	a. Replace check valve
6. Water discharge from air vents of eductor	a. Restricted discharge hose b. High water pressure	a. Be sure discharge hose is not immersed, kinked or elevated. Be sure there is no liquid in the discharge hose when beginning to operate dispenser b. Install pressure regulator if flowing water pressure exceeds 60 PSI
7. Excessive foaming in	a. Turbulence in discharge	a. Hold spray bottles at an angle to discharge tube

* In hard water areas, scale may form inside the discharge end of the eductor, as well as in other areas of the unit that are exposed to water. This scale may be removed by soaking the eductor in a descaling solution (deliming solution). To remove an eductor located in the cabinet, firmly grasp vacuum breaker and unthread eductor. Replace in same manner. This will avoid loosening the vacuum breaker. Alternatively, a scaled eductor can be cleaned (or kept from scaling) by drawing the descaling solution through the unit. Operate the unit with the suction tube in the descaling solution. Operate the unit until solution is drawn consistently, then flush the unit by drawing clear water through it for a minute. Replace concentrate container and put suction tube into concentrate.



**MaxiMizer™ ST Model 18471
with E-Gap Eductors**

Package Contains:

1. Proportioner unit.
2. Supply tubes (3 pieces).
3. Strainer and weight.
4. Discharge tubes (1 long, 1 short).
5. Metering tip kit.
6. Mounting anchor kit.
7. Drip tray (1).
8. Instruction sheet.

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

*****NOTE*****

WEAR	protective clothing and eyewear when dispensing chemicals or other materials.
ALWAYS	observe safety and handling instructions of the chemical manufacturers.
ALWAYS	direct discharge away from you or other persons or into approved containers.
ALWAYS	dispense cleaners and chemicals in accordance with manufacturer's instructions. Exercise CAUTION when maintaining your equipment.
KEEP	equipment clean to maintain proper operation.
WEAR	protective clothing and eyewear when working in the vicinity of all chemicals, filling or emptying equipment or changing metering tips.
ALWAYS	re-assemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position.
ATTACH	only to tap water outlets (85 PSI maximum).
NOTE	If the unit is used to fill a sink or the discharge hose can be placed into a sink, the unit must be mounted so that the bottom of the cabinet is above the overflow rim of the sink.

Installation and Operation:

1. To install the tray wireform on the cabinet, lay the unit on its back. Insert the two wireform ends through the bottle rest until the wireform touches the front of the bottle rest. Push on the two palmuts until they are tight to the backside of the bottle rest.
2. Unlock the front door panel and open it.
3. To mount the unit to a wall, drill mounting holes and insert the plastic toggle anchors provided into the holes. Use the screws provided to secure the unit to the wall.
4. Connect the long, flexible discharge tube to the bottom of the 3.5 GPM (yellow) eductor, applying the end opposite the hook. Route the tube out the bottom of the unit, through the hole provided. The hook allows the discharge tube to hang neatly when not in use. Make sure the discharge tubes are fully engaged onto the eductors.
5. Connect water supply hose of at least 3/8" ID to water inlet swivel at left side of manifold, through the hole in the cabinet. (Minimum 25 PSI pressure, with water running, is required for proper operation.) Attach hose to water supply source. Turn water supply on. If needed, the front panel can be removed by loosening the two screws inside the bottom edge and then lifting the front off.
6. Select a metering tip for each eductor (see next section) and insert the tips into the check valve hose barbs.
7. Install the suction tube as follows:
 - Slide a ceramic weight over one end of the 24" piece of tubing.
 - Install the clear plastic strainer in the end of the 24" piece of tubing, and slide the weight down to the strainer.
 - Slide the opposite end of the 24" piece of tubing over the stem of the hose barb tee (the barb which doesn't have another barb opposite it).
 - With strainer hanging down, connect the the 6" piece of tubing to the left hand side on the hose barb tee. Connect the other end of this piece of tubing to the check valve on the left side (grey) eductor.
 - Connect 10" piece of tubing to the right hand side of the hose barb tee. Connect the other end of this piece of tubing to the check valve on the right side (yellow) eductor.
 - Place strainer into the concentrate container. REMEMBER TO CHECK STRAINER PERIODICALLY FOR CLOGS. CLEAN WHEN NECESSARY. Place concentrate container into cabinet.
8. Close front door panel and lock. Be sure a drip tray is in its place at the bottom of the shelf, below concentrate container.
9. Write product name on the label on the front of the cabinet door.
10. Purge air from the system by depressing the buttons briefly. (Be sure to have a bottle or other receptacle under the discharge tube.) There may be some water discharge from the eductor vents until the air is purged. Prime each of the supply tubes in this way. Then push the button whenever dispensing is desired, and release button to stop flow of solution. Buttons may be converted to twist-to-latch locking buttons by installing the latch spring provided (see parts diagram for placement). This allows continuous dispensing without holding button.



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Metering Tip Selection:

The final concentration of the dispensed liquid is related to both the size of the metering tip opening and the viscosity of the liquid being siphoned. If product viscosity is noticeably greater than that of water, consult the procedure for Measurement of Concentration to achieve your desired water-to-product ratio. For water-thin products, use the chart at right as a **guideline**. Such factors as inlet water pressure and temperature can affect dilution ratios, so the figures listed on the chart are only approximate. Test the dilution you are achieving using the Measurement of Concentration procedure for best results. Use the undrilled, clear tip for drilling a size not listed.

Measurement of Concentration:

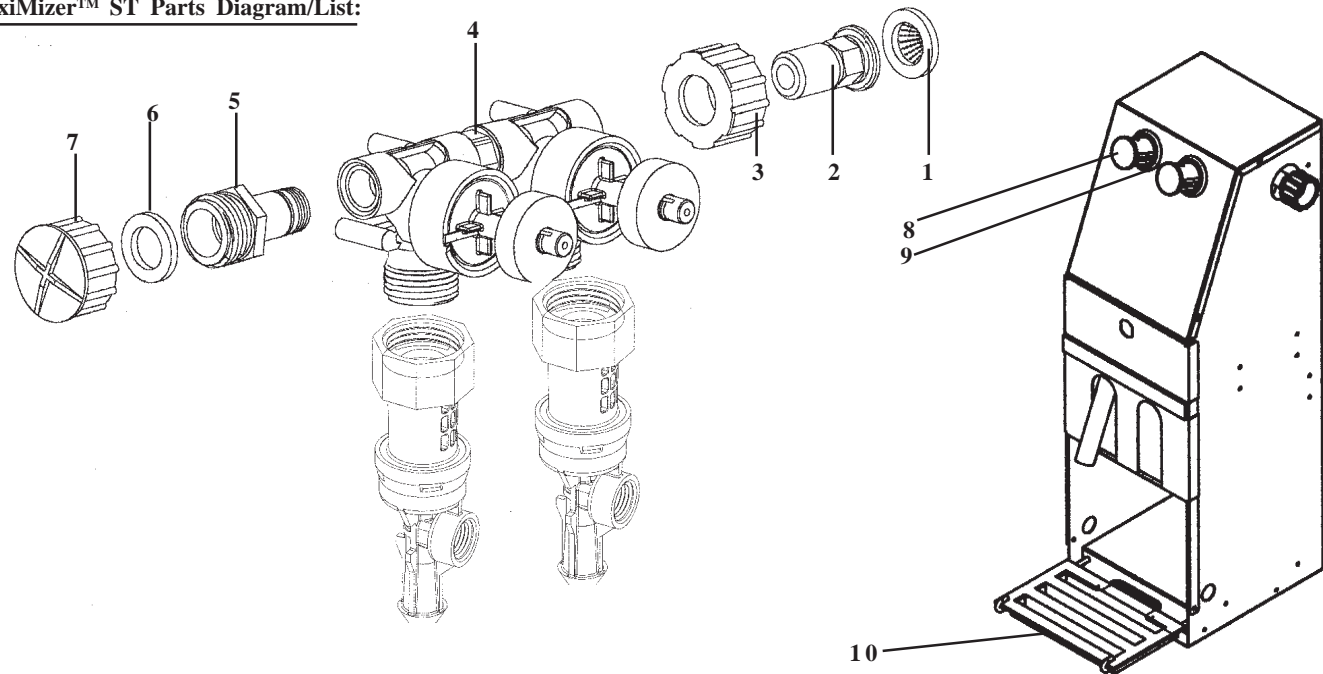
To determine the dispensed water-to-product ratio for any metering tip size and product viscosity, operate the primed dispenser for a minute or so and note the amount of dispensed solution, and the amount of concentrate used in preparation of the solution.

Dilution Ratio (X:1) where $X = \frac{\text{Amount of Mixed Solution} - \text{Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$

Dilution Ratio 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.

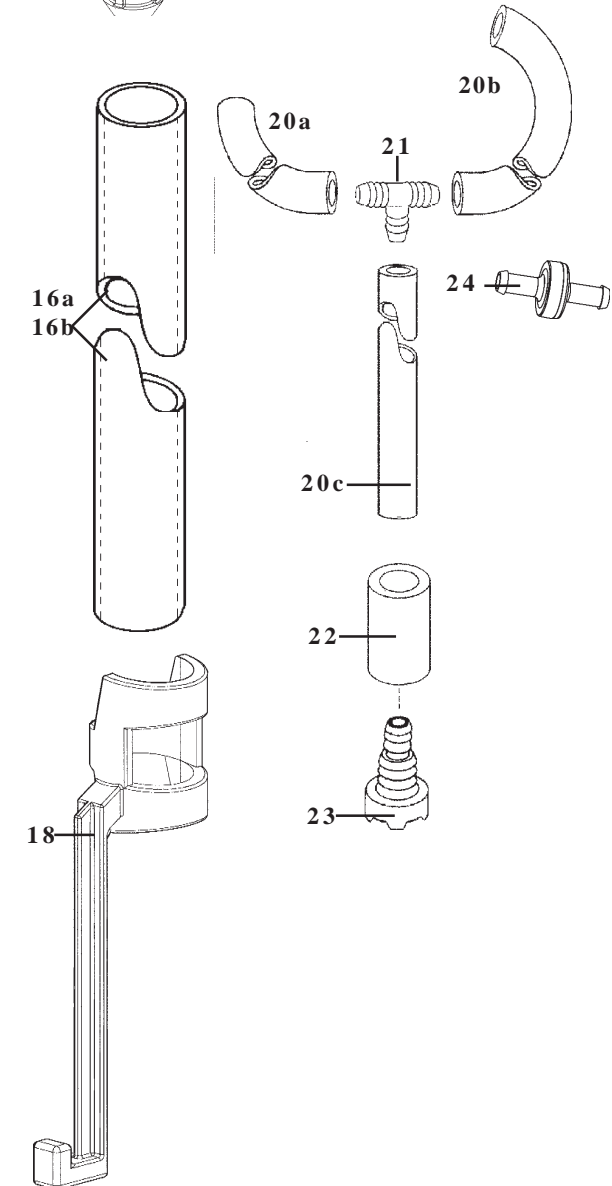
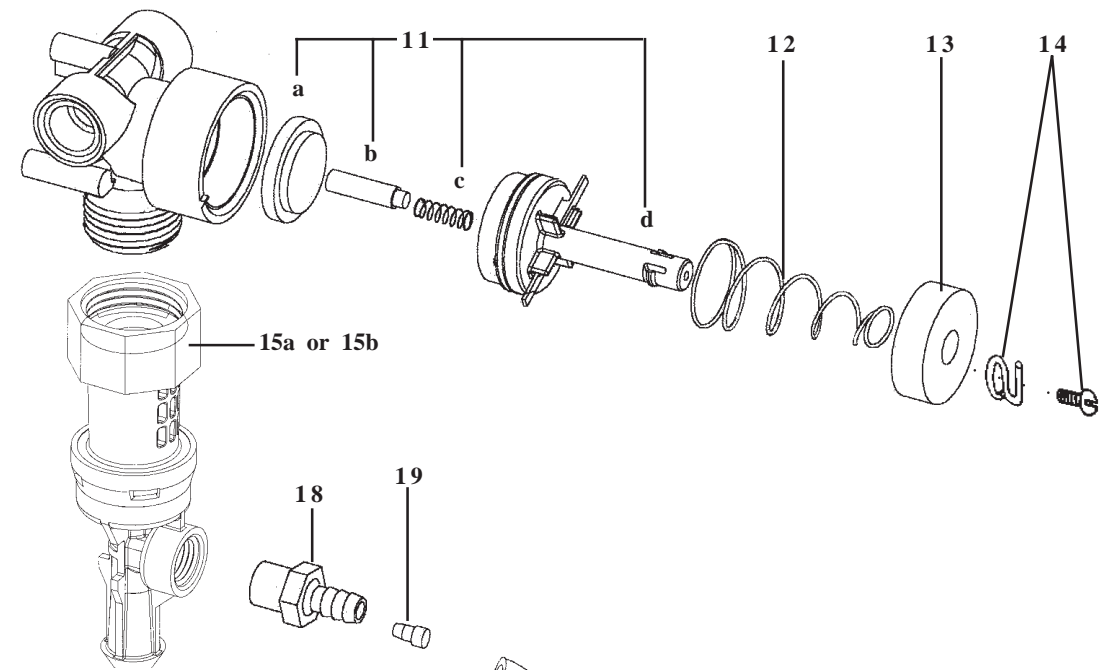
MaxiMizer™ ST Parts Diagram/List:



Key	Part No.	Description	Key	Part No.	Description
1	238100	Strainer washer		10077485	Button, light grey (includes #9)
2	10082840	Swivel stem (3/8" NPT)		10082750*	Button, dark grey locking
3	10082830	Swivel nut		10082751*	Button, blue locking
4	10075911	Nipple (between valves)		10082752*	Button, red locking
	10075950	O-ring (2 required)		10082753*	Button, green locking
5	10082802	Fitting		10082754*	Button, yellow locking
6	270700	Washer		10082755*	Button, light grey locking
7	10082821	Cap			* Locking button parts kits include #9 grommet and #14 spring/screw
8	10077480	Button, dark grey (includes #9)	9	10068810	Grommet
	10077481	Button, blue (includes #9)	10	90072852	Drip tray kit (includes wireform and palnuts)
	10077482	Button, red (includes #9)			
	10077483	Button, green (includes #9)			
	10077484	Button, yellow (includes #9)			

APPROXIMATE DILUTIONS AT 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP)				
Tip Color	Orifice Size	Std. Drill Number	Ratio (per Eductor Flow)	
			1 GPM	3.5 GPM
No Tip	.187	(3/16)	3:1	3.5:1
Grey	.128	(30)	3:1	4:1
Black	.098	(40)	3:1	4:1
Beige	.070	(50)	4:1	8:1
Red	.052	(55)	5:1	14:1
White	.043	(57)	7:1	20:1
Blue	.040	(60)	8:1	24:1
Tan	.035	(65)	10:1	30:1
Green	.028	(70)	16:1	45:1
Orange	.025	(72)	20:1	56:1
Brown	.023	(74)	24:1	64:1
Yellow	.020	(76)	32:1	90:1
Aqua	.018	(77)	38:1	128:1
Purple	.014	(79)	64:1	180:1
Pink	.010	(87)	128:1	350:1

MaxiMizer™ ST Parts Diagram/List:



Key	Part No.	Description
11	10075980	Valve parts kit: a. diaphragm, b. armature, c. spring, d. valve bonnet
12	10079010	Spring
13	10079000	Magnet parts kit: e. spring, f. magnet, g. washer, h. screw
14	10068835	Locking button kit
15 a	294	1 GPM eductor assembly
b	295	3.5 GPM eductor assembly
16 a	10088823	1 GPM discharge tube assembly
b	10084485	3.5 GPM discharge tube assembly
17	10080730	Hose hook, dark grey
18	3401-R	Hose barb
19	90081023	Metering tip (kit)
20 a	10062570	Tubing, 1/4" x 6"
b	10062560	Tubing, 1/4" x 10"
c	10062550	Tubing, 1/4" x 24"
21	10062000	Tee
22	509900	Weight
23	609600	Foot strainer
24	10089401	Check valve
NOT SHOWN:		
	10029500	Lock
	10018000	Mounting clip for lock
	10029600	Keys (2) for lock
	10075158	MSDS Envelope