

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 discharge	a. Air leak between tee and pick-up tubing b. Turbulence in discharge	a. Be sure tubing is secured on tee barbs: try clamps on tee barbs, or replace tee b. 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™ II Model 2848AG-2
with HydroGap™ Air 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 kits.
6. Mounting anchor kit.
7. Drip tray (1).
8. Instruction sheet.

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS

Hydro Systems manufactures quality chemical proportioners. 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).

Installation and Operation:

1. Unlock the front door panel and open it.
2. 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.
3. 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.
4. Connect water supply hose of at least ½" 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.
5. Select a metering tip for each eductor (see next section) and insert the tips into the check valve hose barbs.
6. 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.
7. Close front door panel and lock. Be sure a drip tray is in its place at the bottom of the shelf, below concentrate container.
8. Write product name on the label on the front of the cabinet door.
9. 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.
10. **It is essential that the discharge tubes not be obstructed. If discharge is restricted, water will flow out the eductor vents. Do not start to operate the dispenser with liquid in the discharge tubes.**



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:

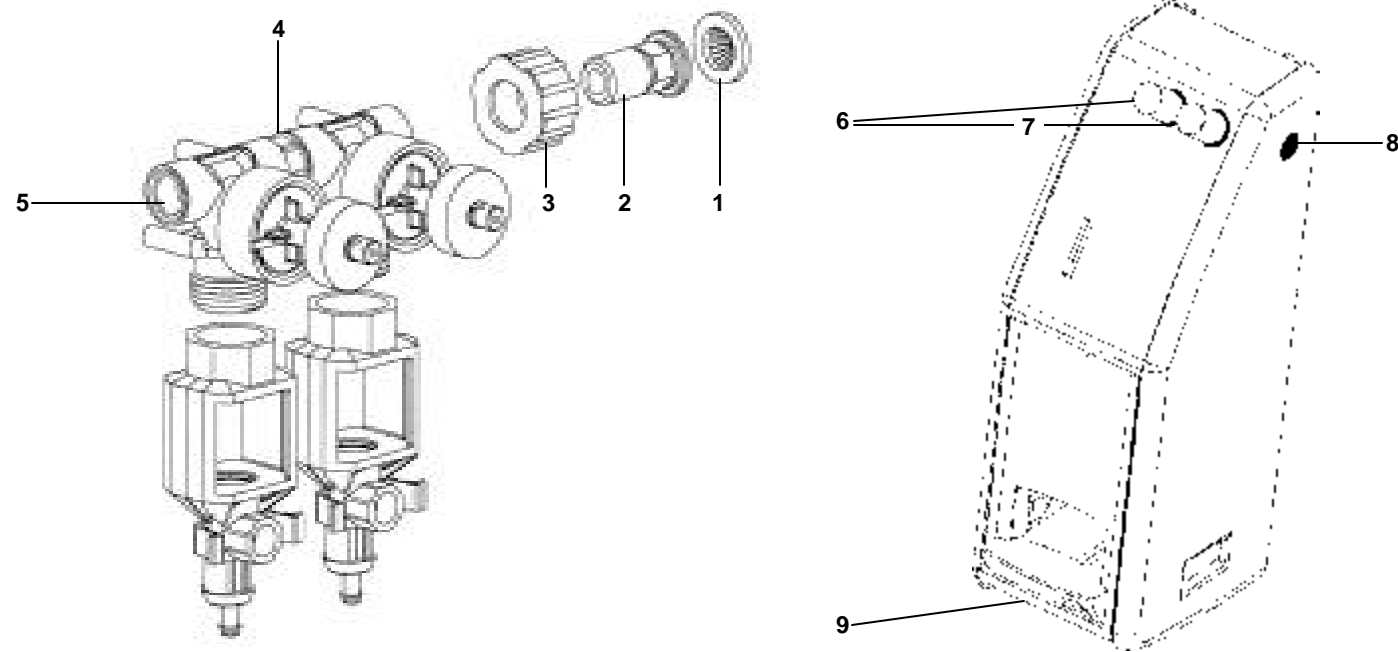
To determine the dispensed water-to-product ratio for any metering tip size and product viscosity, operate the primed dispenser for a minute or so and note the amount of dispensed solution, and the amount of concentrate used in preparation of the solution.

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.

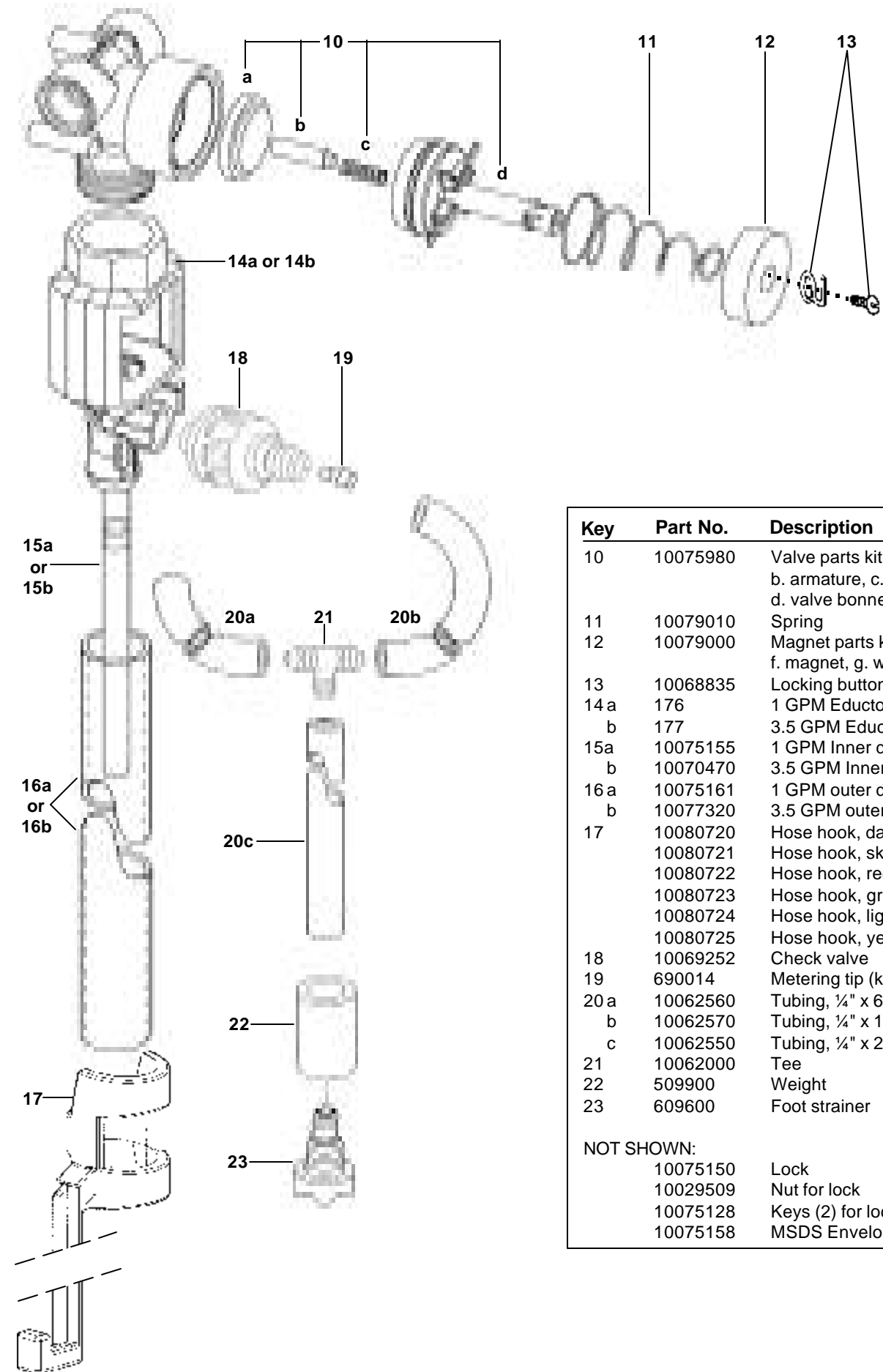
MaxiMizer™ II Parts Diagram/List:



Key	Part No.	Description	Key	Part No.	Description
1	238100	Strainer washer		10082750*	Button, dark grey locking
2	10064687	Swivel stem (3/8" NPT)		10082751*	Button, blue locking
3	10064681	Swivel nut		10082752*	Button, red locking
4	10075912	Nipple (between valves)		10082753*	Button, green locking
	10075950	O-ring (2 required)		10082754*	Button, yellow locking
5	10075925	Pipe plug		10082755*	Button, light grey locking
6	10077480	Button, dark grey (includes #7)			* Locking button parts kits include #7 grommet and #13 spring/screw
	10077481	Button, blue (includes #7)	7	10068810	Grommet
	10077482	Button, red (includes #7)	8	10068885	Hole plug (for side cabinet opening)
	10077483	Button, green (includes #7)	9	10075160	Drip Tray
	10077484	Button, yellow (includes #7)			
	10077485	Button, light grey (includes #7)			

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™ II Parts Diagram/List:



Key	Part No.	Description
10	10075980	Valve parts kit: a. diaphragm, b. armature, c. spring, d. valve bonnet
11	10079010	Spring
12	10079000	Magnet parts kit: e. spring, f. magnet, g. washer, h. screw
13	10068835	Locking button kit
14 a	176	1 GPM Eductor kit (grey)
b	177	3.5 GPM Eductor (yellow)
15 a	10075155	1 GPM Inner discharge tube
b	10070470	3.5 GPM Inner discharge tube
16 a	10075161	1 GPM outer discharge tube
b	10077320	3.5 GPM outer discharge tube
17	10080720	Hose hook, dark grey (standard)
	10080721	Hose hook, sky blue
	10080722	Hose hook, red
	10080723	Hose hook, green
	10080724	Hose hook, light grey
	10080725	Hose hook, yellow
18	10069252	Check valve
19	690014	Metering tip (kit)
20 a	10062560	Tubing, 1/4" x 6"
b	10062570	Tubing, 1/4" x 10"
c	10062550	Tubing, 1/4" x 24"
21	10062000	Tee
22	509900	Weight
23	609600	Foot strainer
NOT SHOWN:		
	10075150	Lock
	10029509	Nut for lock
	10075128	Keys (2) for lock
	10075158	MSDS Envelope