

Troubleshooting Chart:

Problem	Cause	Solution
1. No discharge	a. No water b. Magnetic valve not functioning c. Excessive water pressure d. Eductor clogged e. Clogged water inlet strainer	a. Open water supply b. Install valve parts kit c. Install regulator if water pressure exceeds 60 PSI (flowing) d. Clean* or replace e. Disconnect inlet water line and clean s strainer
2. No concentrate draw	a. Clogged foot valve 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. Inlet hose barb not screwed into eductor tightly g. Clogged water inlet strainer h. Air leak in chemical pick-up tube i. Selector out of position	a. Clean or replace b. Clean (descale)* or replace c. Minimum 20 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. Put clamp on tube or replace tube if brittle i. Assure selector is in position desired
3. Excess concentrate draw	a. Metering tip not in place b. Chemical above eductor	a. Press correct tip firmly into barb on eductor b. Place concentrate below the 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	a. Clean* or replace with valve parts kit b. Make sure magnet moves freely. c. Remove button and clean cabinet/button to remove any dirt lodged in slide recess
5. Excess foaming in discharge	a. Air leak in pick-up tube	a. Put clamp on tube or replace tube if brittle

*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 water valve and unthread eductor. Replace in same manner. 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.



A **DOVER** RESOURCES COMPANY

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MaxiMizer™ ST Proportioning System

Package Contains:

1. Proportioner unit.
2. Supply tubes, "T" fitting to assemble tubes.
3. Foot valves and weights.
4. Discharge tubes.

Model 18761 With E-Gap Eductors

5. Metering tip kits.
6. Mounting anchor kit.
7. Drip tray.
8. Instruction sheet.

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS

Hydro Systems manufactures quality chemical proportioning equipment. 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: (if unfamiliar with system components, see parts diagrams and lists before beginning.)

1. To install the tray wireform on the cabinet, lay the unit on its back. Insert the two wireform ends through only the front edge holes of the bottle rest. Install 2 palnuts approximately 4" up the wire ends. Place the drip tray securely into the wireform and push the wireform ends through the back edge holes of the bottle rest. Install 2 palnuts at the rear. Finish the installation by pushing the first two palnuts under the bottle rest the remainder of the way forward to secure the wireform.
2. Unlock the front door panel and open it. The front panel can be removed by removing the 4 screws securing it.
3. To mount unit to a wall, drill mounting holes and insert plastic toggle anchors provided into holes. Use screws provided to secure unit to the wall.
4. Connect water supply hose of at least 3/8" ID to water inlet swivel at right side of manifold. (Minimum 25 PSI pressure, with water running, is required for proper operation.) Route hose out side of cabinet, through hole provided, and attach hose to water supply source. Turn water supply on.
5. Select metering tips (up to 4) for selector valve (see next two sections). Push each tip firmly into a separate hose barb extending from selector valve. (It is suggested that "low flow" tip for product to be dispensed at both low flow and high flow be installed in lower right barb.) A tip with no hole (clear plastic color) can be used to block any valve port not being used. (This may be used for dispensing water only.) Select and install a metering tip for single product eductor (right side) in same manner.
6. Connect long, flexible discharge tube to bottom of 3.5 GPM (yellow) eductor, using the end with the ring clamp. Hook provided may be installed on opposite end of long tube. Twist while guiding hook onto end of tube opposite eductor. Hook allows tube to hang from cabinet when not in use. Make sure all discharge tubes are fully engaged onto eductors.
7. One product will be connected to both the 3.5 GPM (yellow) eductor and to one barb on selector valve (to be dispensed at 1 GPM). Rig suction tube assembly for this product as follows:
 - Put the 1/4" x 2 1/2" tube on selector valve barb to which you wish to connect product.
 - Locate in-line check valve in installation kit. Note that in-line check valve has arrows molded in side. Install end of in-line check valve to which arrows point into short tube just installed.
 - Install one 1/4" x 6" tube on other end of in-line check valve. Put other 1/4" x 6" tube on check valve attached to yellow eductor.
 - Install "T" fitting between two 6" pieces of tubing to connect them.
 - Cut a piece of tubing to reach from "T" fitting to bottom of concentrate container when it is in place in cabinet. Install this piece of tubing on bottom leg of "T" fitting, then slide a weight over open end of tube. Put foot strainer into open end of tube.
8. Determine lengths of tubes required to reach from remaining hose barbs on the selector valve to bottoms of various concentrate containers. Cut tubing supplied as needed. Install each of these suction tubes as follows:
 - Slide a ceramic weight over one end of the piece of tubing.
 - Push the hose barb end of a foot valve into one end of the open tube.
 - Slide the weight down to the foot valve.
 - Place foot valve end of suction tube into the concentrate container and place container into MaxiMizer cabinet.
 - Push the other (open) end of the suction tube assembly over the hose barb/metering tip on the eductor.
 - REMEMBER TO CHECK FOOT VALVE STRAINER FOR CLOGGING PERIODICALLY. CLEAN AS NECESSARY.
9. To reinstall cover, run discharge tubes through holes in bottom of cover. Reinstall four cabinet screws. Run hoses through the slot in the drop panel, close drop panel and lock.
10. Write product names on labels that have been pre-applied to system cabinet so that they correspond to product that will be dispensed given selector position.

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:

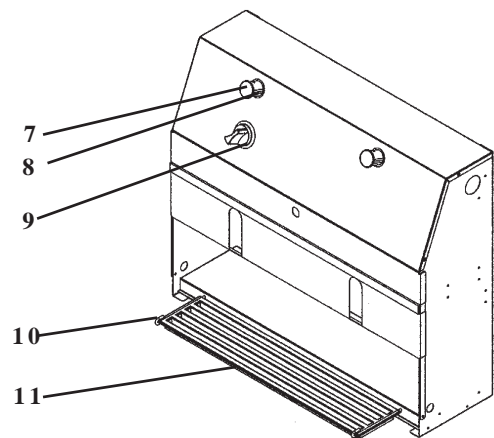
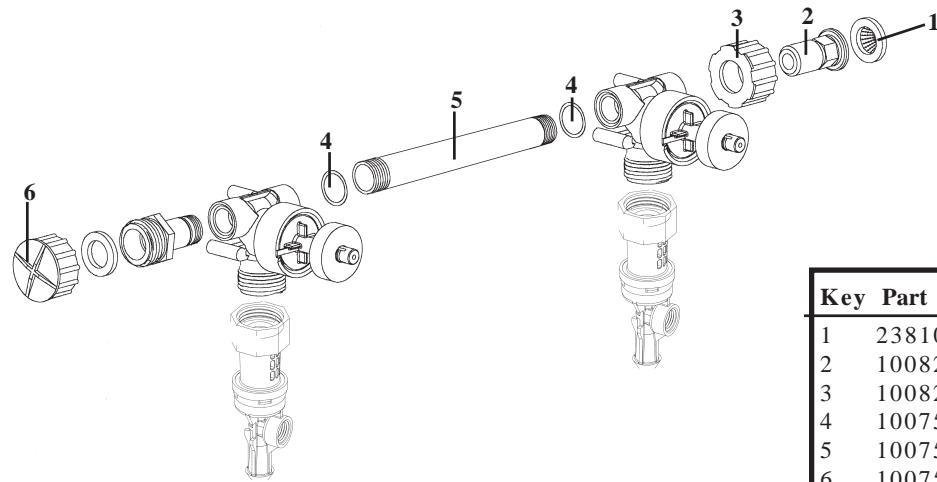
To determine the dispensed water-to-product ratio for any metering tip size and product viscosity, operate the primed dispenser for a minute or so and note the amount of dispensed solution, and the amount of concentrate used in preparation of the solution.

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.

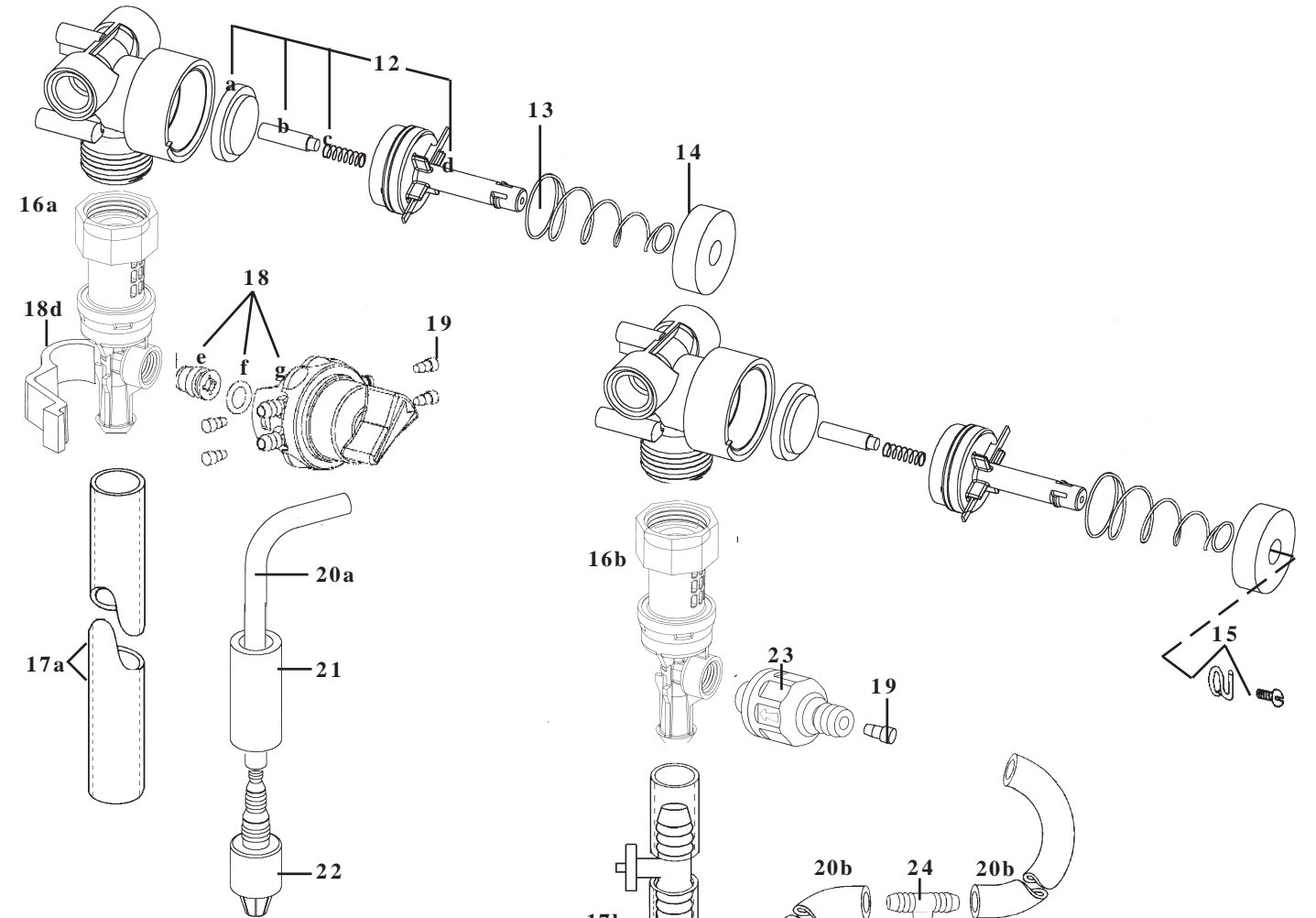
MaxiMizer™ ST Parts Diagram/List:

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



Key	Part No.	Description
1	238100	Strainer washer
2	10082801	Swivel stem
3	10082830	Swivel collar
4	10075950	O-ring
5	10075901	Nipple
6	10075925	Pipe plug
7	10077480	Button, dark grey (includes #8)
	10077481	Button, blue (includes #8)
	10077482	Button, red (includes #8)
	10077483	Button, green (includes #8)
	10077484	Button, yellow (includes #8)
	10077485	Button, light grey (includes #8)
	10082750*	Button, dark grey locking
	10082751*	Button, blue locking
	10082752*	Button, red locking
	10082753*	Button, green locking
	10082754*	Button, yellow locking
	10082755*	Button, light grey locking
	* Locking button kits include #8 grommet and #15 kit	
8	10068810	Grommet
9	10020700	Grommet (selector knob)
	10020900	Retainer ring for grommet #10
10	10078591	Wireform kit
11	10055001	Tray

MaxiMizer™ ST Parts Diagrams/List



Key	Part No.	Description
12	10075980	Water valve parts kit: a. diaphragm, b. armature, c. spring, d. bonnet
13	10079010	Spring
14	10079000	Magnet
15	10068835	Locking button kit (spring & screw)
16a	294	1 GPM eductor assembly
b	295	3.5 GPM eductor assembly
17a	10088823	1 GPM Discharge tube assembly
b	10084485	3.5 GPM Discharge tube assembly
18	10080955	Selector valve replacement kit: d. support clip, e. stub, f. O-ring, g. selector valve
19	690014	Metering tip (kit)
20a	500814	Tubing: 1/4" x 14' (cut as required)
b	10062570	Tubing: 1/4" x 6"
c	10068730	Tubing: 1/4" x 2 1/2"
21	509900	Weight
22	10076301	Foot valve - Viton (EPDM also available: #10076302)
23	10069252	Check valve
24	10062000	"T" fitting
25	10076303	In-line check valve
26	609600	Strainer
27	10080730	Hose hook, dark grey (standard)
	10080731	Hose hook, sky blue
	10080732	Hose hook, red
	10080733	Hose hook, green
	10080734	Hose hook, light grey

Key	Part No.	Description
	10080735	Hose hook, yellow
NOT SHOWN:		
	10029500	Lock
	10018000	Lock mounting clip
	10075158	MSDS Envelope
	10075128	Keys (2) for lock