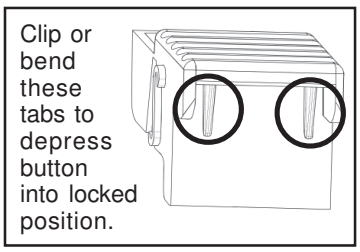
AccuDose Series Proportioner
Models 3871GB-2 & 3872GB-2

Package Should Contain:

1. Proportioner unit.
2. Chemical inlet tubing assembly with foot valve & weight.
3. Discharge tube.
4. Metering tip kit.
5. Mounting hardware.
6. Hook for discharge tube (Model 3871GB-2 only).
7. Instruction sheet.

Installation and Operation:

1. Remove cabinet cover. Drill holes for the three wall anchors with a 8mm drill bit, using the cabinet back as a template for proper spacing of the mounting screws. Install mounting anchors, and then screws in top two anchors. Slide key holes in cabinet back over screw heads, tighten screws, then install bottom screw. Do not mount more than 1.8 meters above the bottom of the concentrate container, nor below the highest concentrate level (never mount the concentrate container higher than the proportioner).
2. Select metering tips (up to 4) for the selector valve (see next two sections). Push each tip firmly into a separate hose barb extending from the selector valve. A tip with no hole (clear plastic colour) can be used to block any valve port not being used. (This may be used for dispensing water only.)
3. Attach the chemical suction tube assembly to the selector valve, sliding an open end of each piece of tubing over one barb on the valve. Ensure suction tubes are on the barbs far enough to prevent air from leaking into tube.
4. Slide tubes from each side through the notch in the cabinet.
5. Place foot valve end of supply tube assembly into concentrate container. REMEMBER TO CHECK FOOT VALVE STRAINER PERIODICALLY FOR CLOGGING: CLEAN IF NECESSARY.
6. A short discharge tube is used with a 4 LPM (grey) eductor – Model 3872GB-2 ; minimum tube length is (20 cm) for correct operation. A longer tube (1.2 m) is used with a 16LPM (yellow) eductor – Model 3871GB-2. Slide end of tube over eductor discharge outlet. The hose hook supplied with Model 3871GB-2 may be installed on the long tube to allow it to conveniently hang from dispenser when not in use.
7. Replace cabinet cover. Push the sides in, behind the latch holes, to snap the cover in place. The two screws provided may be installed in the holes in the cabinet sides to prevent easy removal of cover.
8. Connect water supply hose of at least 13mm ID to water inlet swivel. (Minimum 1.76 Bar pressure, **with water running**, is required for correct operation.) Connect opposite end of hose to water supply. Turn water supply on.
9. Purge air from the system by depressing the buttons briefly. There may be some water discharge from the eductor vents until the air is purged.
10. Push button to start flow of desired water/concentrate solution, and hold until supply tube is primed (filled). Then push the button whenever dispensing is desired, and release button to stop flow of solution. If you wish to be able to lock the button in the "on" position: Clip or bend the two tabs behind the lower front portion of the button. (See diagram below) This allows the button to be fully depressed and allows it to latch in the "on" position. **TO UNLOCK, PULL THE BUTTON OUT.**
11. **It is essential that the discharge hose is not obstructed. If discharge is restricted, water will flow out of the eductor vents. Do not start to operate the dispenser with liquid in the discharge tube.**



Metering Tip Selection:

The final concentration of the dispensed solution is related to both the size of the metering tip opening and the viscosity of the liquid being siphoned. For water-thin products, the chart at right can be used as a guideline. If product is noticeably thicker than water, consult the Measurement of Concentration Procedure below to achieve your desired water-to-product ratio. Because dilution can vary with water temperature and pressure, actual dilution achieved can only be ascertained by using the Measurement of Concentration Procedure. The clear, undrilled tip is provided to permit drilling to size not listed should you need a dilution ratio that falls between standard tip sizes.

NOTE: A 4 LPM eductor is grey; a 16 LPM eductor is yellow. Refer to parts diagram if unfamiliar with names of system components.

APPROXIMATE DILUTIONS AT 2.86 BAR FOR WATER-THIN PRODUCTS (1.0 CP)

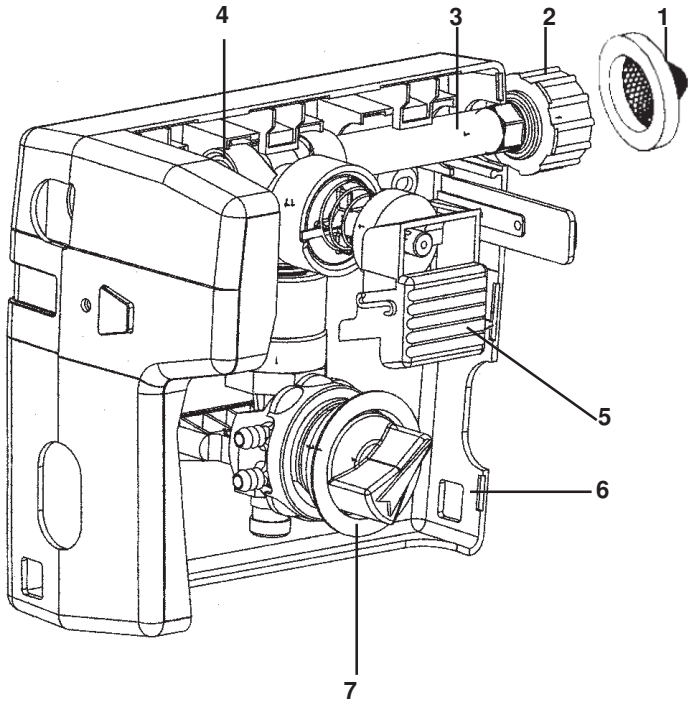
Tip Colour	Orifice Size / Std. Drill Number		Ratio (per Eductor Flow) 4 LPM	16 LPM
No Tip	.187	(3/16)	2:1	3:1
Grey	.128	(30)	2:1	3:1
Black	.098	(40)	2:1	4:1
Beige	.070	(50)	3:1	8:1
Red	.052	(55)	4:1	14:1
White	.043	(57)	5:1	20:1
Blue	.040	(60)	6:1	24:1
Tan	.035	(65)	8:1	30:1
Green	.028	(70)	12:1	45:1
Orange	.025	(72)	16:1	56:1
Brown	.023	(74)	18:1	64:1
Yellow	.020	(76)	24:1	90:1
Aqua	.018	(77)	32:1	128:1
Purple	.014	(79)	45:1	180:1
Pink	.010	(87)	128:1	350:1

Measurement of Concentration:

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 solution, and the amount of concentrate used in preparation of the solution dispensed. The water-to-product ratio is then calculated as follows:

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

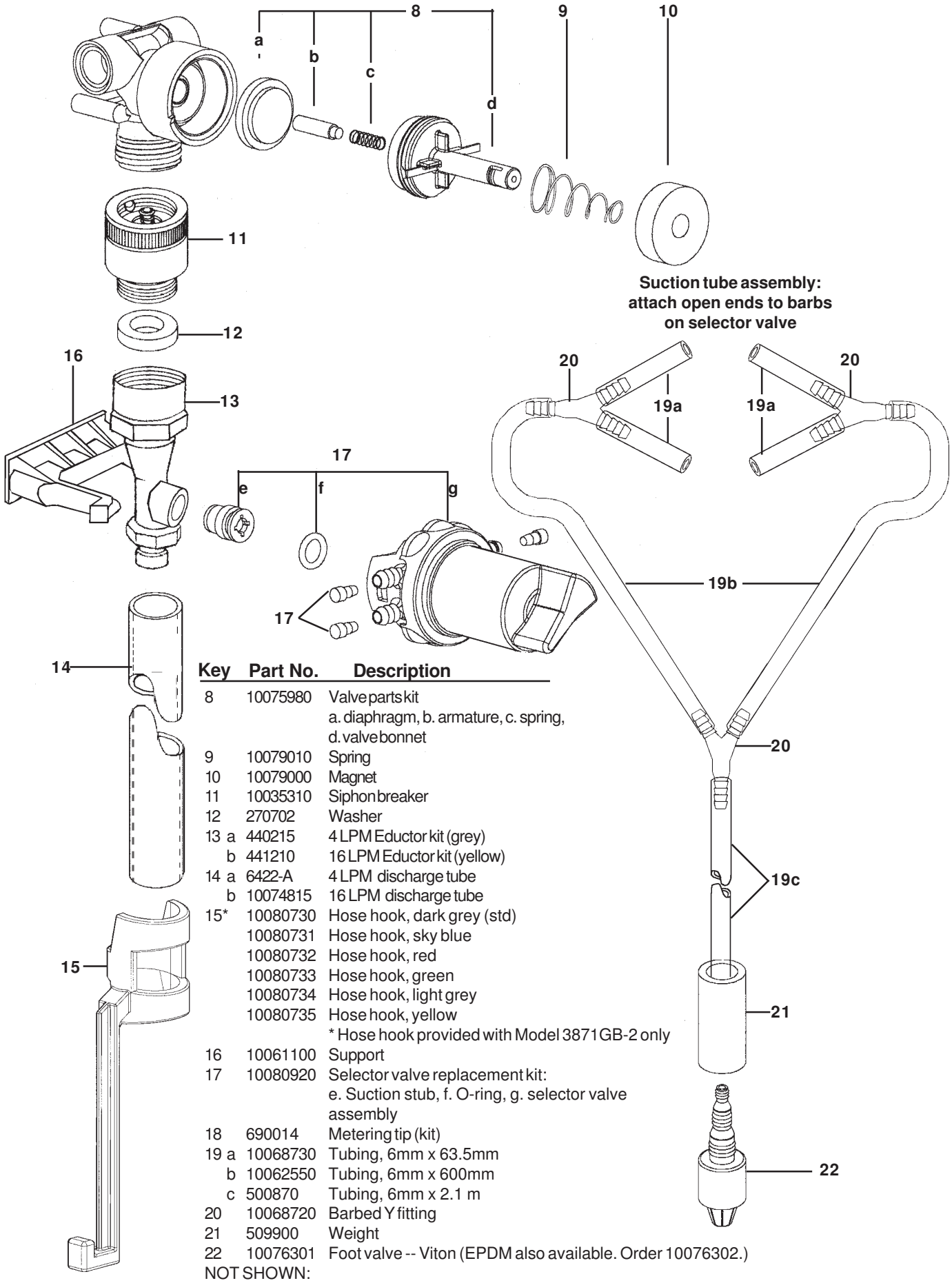
Dilution Ratio, then, equals X parts water to one part concentrate (X:1). If the test does not yield the desired ratio, choose a different tip and repeat the test. Alternative methods to this test are 1) pH (using litmus paper), and 2) titration. Contact your concentrate supplier for further information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



AccuDose Parts Diagram:

Key	Part No.	Description
1	238100	Strainer washer
2	10082835	Swivel collar
3	10082816	Swivel stem
	10075950	O-ring (stem/valve connection)
4	10075925	Pipe plug
5	10080710	Button, dark grey (standard)
	10080711	Button, sky blue
	10080712	Button, red
	10080713	Button, green
	10080714	Button, light grey
	10080715	Button, yellow
6	10080894	Cabinet
7	10020700	Selector valve grommet
	10020900	Back up ring for grommet

AccuDose Parts Diagram/List:



Key	Part No.	Description
8	10075980	Valve parts kit a. diaphragm, b. armature, c. spring, d. valve bonnet
9	10079010	Spring
10	10079000	Magnet
11	10035310	Siphon breaker
12	270702	Washer
13 a	440215	4 LPM Eductor kit (grey)
b	441210	16 LPM Eductor kit (yellow)
14 a	6422-A	4 LPM discharge tube
b	10074815	16 LPM discharge tube
15*	10080730	Hose hook, dark grey (std)
	10080731	Hose hook, sky blue
	10080732	Hose hook, red
	10080733	Hose hook, green
	10080734	Hose hook, light grey
	10080735	Hose hook, yellow
		* Hose hook provided with Model 3871GB-2 only
16	10061100	Support
17	10080920	Selector valve replacement kit: e. Suction stub, f. O-ring, g. selector valve assembly
18	690014	Metering tip (kit)
19 a	10068730	Tubing, 6mm x 63.5mm
b	10062550	Tubing, 6mm x 600mm
c	500870	Tubing, 6mm x 2.1 m
20	10068720	Barbed Y fitting
21	509900	Weight
22	10076301	Foot valve -- Viton (EPDM also available. Order 10076302.)
NOT SHOWN:		
	641750	Security screws (cabinet sides)

Troubleshooting Chart:

Problem	Cause	Solution
1. No discharge	a. No water	a. Open water supply
	b. Magnetic valve not functioning	b. Install valve parts kit
exceeds	c. Excessive water pressure	c. Install regulator if water pressure
		60 PSI (flowing)
	d. Eductor clogged	d. Clean* or replace
2. No concentrate draw	a. Clogged foot valve	a. Clean or replace
	b. Metering tip or eductor has scale build-up	b. Clean (descale)* or replace
	c. Low water pressure	c. Minimum 20 PSI (with water running) required to operate unit properly
	d. Discharge tube(s) not in place or flooding ring missing from inner discharge tube	d. Push tube firmly onto eductor discharge hose barb; be sure inner discharge tube is installed and has flooding ring.
	e. Concentrate container empty	e. Replace with full container
	f. Inlet hose barb not screwed into eductor tightly	f. Tighten, but do not overtighten
	g. Clogged water inlet strainer	g. Disconnect inlet water line and clean strainer
	h. Selector out of position	h. Assure selector is in position desired
3. Excess concentrate draw	a. Metering tip not in place	a. Press correct tip firmly into barb on eductor
	b. Chemical above eductor	b. Place concentrate below the eductor
4. Failure of unit to turn off	a. Water valve parts dirty or defective	a. Clean* or replace with valve parts kit
	b. Magnet doesn't fully return	b. Make sure magnet moves freely.
	c. Push button stuck	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
	b. Inner discharge tube not in place	b. Install inner discharge tube
6. Water discharge from air vents on eductor	a. Restricted discharge hose	a. Be sure discharge tube is not immersed, kinked or elevated. Be sure there is no liquid in the discharge tube when beginning to operate dispenser
	b. High water pressure	b. Install pressure regulator if flowing water pressure exceeds 60 PSI (flowing)

* 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.

Hydro

Proportioning & Dispensing Equipment

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