



user manual

Streamline Series Push Button Proportioners with E-Gap Eductors 1,2 & 3 Button

For Models 8321, 8351, 8411, 8421, 8451, 8471, 8521, 8551, 8571, 8591, 8611, 8621, 8631,
8641, 8681, 8691

Safety Precautions



WARNING! Read and fully understand the user manual before operating this product.

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS

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

- 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.
- KEEP** equipment clean to maintain proper operation.
- ATTACH** only to water tap outlets (25 psi Minimum, 85 psi Maximum and Maximum water temperature 120° F).
- 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.
Device shall be installed in a vertical orientation.
A plumbed, dedicated line is preferred for installation. When a dedicated line is not available, installation shall ensure that no cross-connections between hot and cold water are created, and that atmospheric vacuum breakers integrated into the building water supply are not negatively affected by being under pressure for over 12 continuous hours.

introduction

Package Contents

1) Proportioning unit	4) Discharge tubing for each eductor
2) Supply tube - 7 ft. per eductor	5) Metering tip kits
3) Foot valve assemblies and weight (8)	6) Mounting anchor kit

installation and operation

Installation

- Remove the cabinet screws and cover. Drill holes for the wall anchors with a 9/32" drill, using the cabinet back as a template for proper spacing of the mounting screws. Install the anchors. Install screws into the top two anchors. Slide the key holes in the cabinet back over the screw heads and tighten the screws. Install the third (bottom) screw and tighten. Do not mount more than 6 ft.(1.8 m) above the bottom of the concentrate container nor below the highest concentrate level (never mount your concentrate higher than the Streamline unit).
- Select a metering tip for each eductor and insert the tip into the hose barb on the eductor body.
- Supply tube should reach from hose barb on eductor to bottom of concentrate container. If using more than one eductor, cut supply tube provided to lengths required. Slide ceramic weight over one end of the tube and slide foot valve into the same end of the tube.
- Slip open end of supply tube through an opening in either side of the cabinet and push over the hose barb/metering tip on the eductor.

installation and operation (continued)

- A short discharge tube is used with 1 GPM (grey) eductors; minimum tube length is 8" (20 cm) for proper operation. Longer (4ft.) tubes are used with 3.5 GPM (yellow) eductors. Do not remove the flooding rings from inside the tubes. Slide end of tube with flooding ring over eductor discharge outlet. Hooks on opposite end of longer tubes are provided to allow discharge tube to conveniently hang from the side cabinet openings. Hang up the discharge tube after each usage to prevent continuous siphoning of concentrate.
- Place foot valve ends of supply tubes into concentrate containers. **REMEMBER TO CHECK FOOT VALVE STRAINERS PERIODICALLY FOR CLOGGING: CLEAN IF NECESSARY.**
- Replace the cabinet cover and screws.

Operation

- Connect water supply hose of at least 1/2" ID to water inlet swivel. (Minimum 25 psi pressure, with water running, is required for proper operation.) Connect opposite end of hose to water supply. Turn water supply on.
- 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. Optional twist-to-latch buttons are available for continuous dispensing without holding button.
- It is essential that the discharge hose 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 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 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 1.0 GPM eductor is grey; a 3.5 GPM eductor is yellow. Refer to parts diagram if unfamiliar with names of system components.

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:

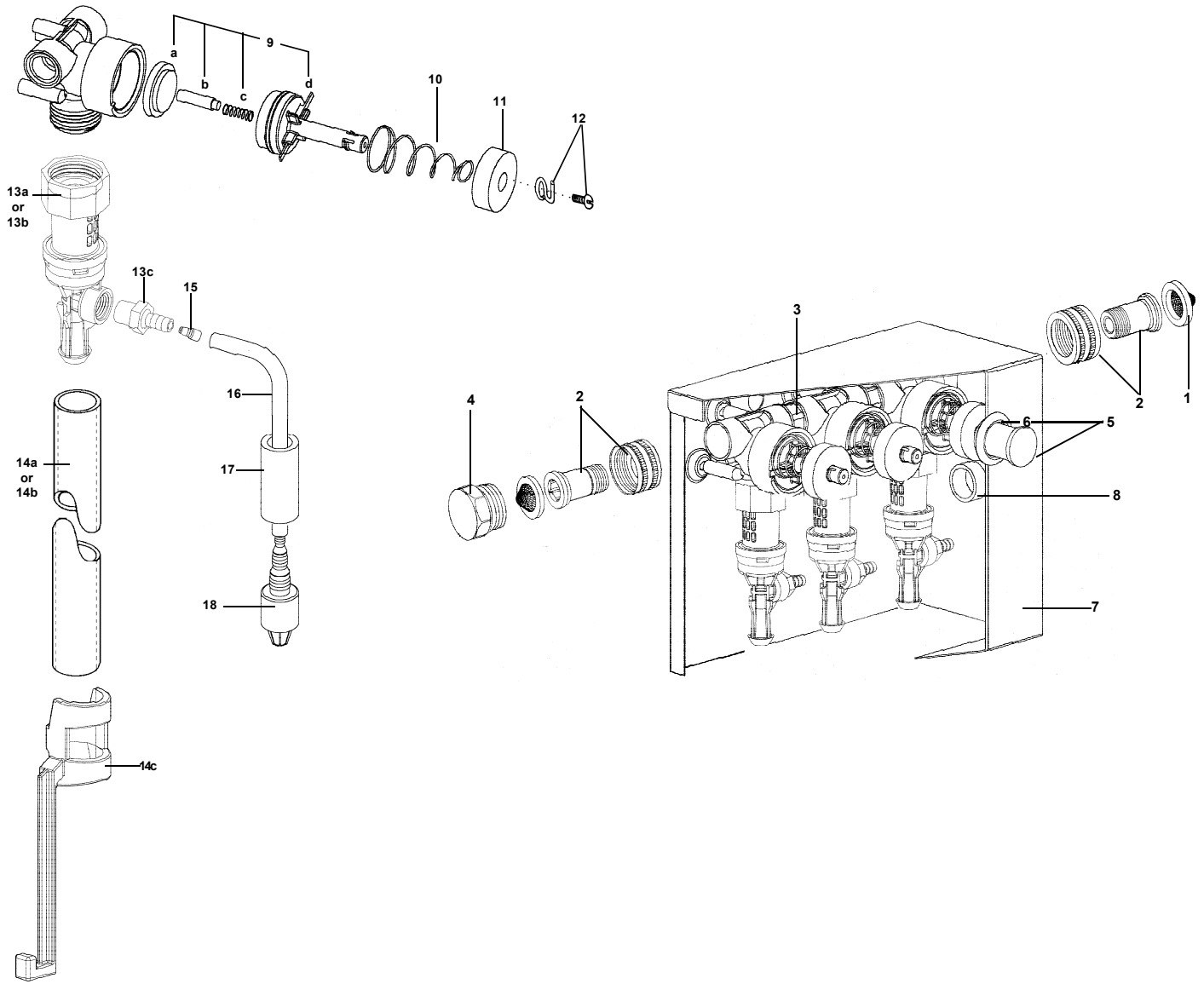
Dilution Ratio (X:1) where

$$X = \frac{\text{Amount of Mixed Solution} - \text{Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$$

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

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 diagram



Key	Part No.	Description	Key	Part No.	Description
1	HYD238100	Strainer washer	12	HYD643811	Locking button, green (includes 5 & 6)
2	HYD276700	Swivel connector		HYD643812	Locking button, red (includes 5 & 6)
3	HYD10075911	3/8" Hex nipple		HYD643813	Locking button, yellow (includes 5 & 6)
	HYD10075950	O-rings (not visible) -- 2 per nipple		HYD643814	Locking button, blue (includes 5 & 6)
4	HYD605201	Garden hose plug		HYD643815	Locking button, grey (includes 5 & 6)
5	HYD643801	Button, green (includes #6)	13a	HYD291	3.5 GPM eductor assembly
	HYD643802	Button, red (includes #6)	b	HYD290	1 GPM eductor assembly
	HYD643803	Button, yellow (includes #6)	c	HYD3401-R	Eductor hose barb
	HYD643804	Button, blue (includes #6)	14a	HYD10088822	Discharge tube, 1 GPM (1/2" x 8")
	HYD643805	Button, grey (includes #6)	b	HYD90048495	Discharge tube, 3.5 GPM (1/2" x 4')
6	HYD235900	Grommet	c*	HYD10080730	Hose hook, dark grey
7	HYD471000	Cover, 1-button unit		HYD10080731	Hose hook, sky blue
	HYD472000	Cover, 2-button unit		HYD10080732	Hose hook, red
	HYD473000	Cover, 3-button unit		HYD10080733	Hose hook, green
	HYD473502	Cover, 4-button unit		HYD10080734	Hose hook, light grey
8	HYD901500	Bushing		HYD10080735	Hose hook, yellow
9	HYD10075980	Valve parts kit: a. diaphragm b. armature, c. spring, d. valve bonnet			* Hooks are for 4 GPM discharge tubes
10	HYD10079010	Spring	15	HYD690014	Metering tip (kit)
11	HYD10079000	Magnet	16	HYD500870	Tubing, 1/4" x 7'
			17	HYD509900	Weight
			18	HYD10076301	Foot valve -- Viton (EPDM also available, order 10076302)

troubleshooting

Problem	Cause	Solution
1. No discharge	a. No water	a. Open water supply
	b. Excessive water pressure	b. Install regulator if water pressure (with water running) exceeds 85 psi
	c. Clogged water inlet strainer	c. Disconnect inlet water line and clean strainer
	d. Magnetic valve not functioning	d. Install valve parts kit
	e. Eductor clogged	e. 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 (descal)* or replace
	c. Low water pressure	c. Minimum 25 psi (with water running) required to operate unit properly
	d. Discharge tube and/or flooding ring not in place	d. Push tube firmly onto eductor discharge hose barb or replace tube if it doesn't have a flooding ring
	e. Concentrate container is empty	e. Replace with full container
	f. Clogged water inlet strainer	f. Disconnect inlet water line and clean strainer
	g. Inlet hose barb not screwed into eductor tightly	g. Tighten, but do not overtighten
	h. Air leak in pick-up tube	h. Put clamp on tube or replace tube if brittle
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 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 that magnet moves freely
	c. Push button stuck	c. Remove button and clean cabinet/button to remove excess 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.

warranty

Limited Warranty

Seller warrants solely to **Buyer** the products will be free from defects in material and workmanship under normal use and service for a period of one year from the date of completion of manufacture. This limited warranty does not apply to (a) hoses; (b) products that have a normal life shorter than one year; or (c) failure in performance or damage caused by chemicals, abrasive materials, corrosion, lightning, improper voltage supply, physical abuse, mishandling or misapplication. In the event the products are altered or repaired by **Buyer** without **Seller's** prior written approval, all warranties will be void.

No other warranty, oral, expressed or implied, including any warranty of merchantability or fitness for any particular purpose, is made for these products, and all other warranties are hereby expressly excluded.

Seller's sole obligation under this warranty will be, at **Seller's** option, to repair or replace F.O.B. **Seller's** facility in Cincinnati, Ohio any Products found to be other than as warranted.

Limitation of Liability

Seller's warranty obligations and **Buyer's** remedies are solely and exclusively as stated herein. **Seller** shall have no other liability, direct or indirect, of any kind, including liability for special, incidental, or consequential damages or for any other claims for damage or loss resulting from any cause whatsoever, whether based on negligence, strict liability, breach of contract or breach of warranty.



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