HYDRO

user manual

Streamline Push Button Propotioner with AirGap Eductors

For Models 832AG-2, 835AG-2, 842AG-2, 845AG-2, 847AG-2, 852AG-2, 855AG-2, 857AG-2, 859AG-2, 861AG-2, 862AG-2, 863AG-2, 868AG-2, 869AG-2

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 vaccum 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	5) Aqua metering tip
2) Supply tube - 7 ft. per eductor	6) Mounting anchor kit
3) Foot valve assembly and weight - one for each eductor	7) Hook(s) for discharge tube(s) - models with 3.5 GPM eductors
4) Inner and outer discharge tubes - one for each eductor	

installation and operation

Installation

1. Remove cabinet covers. Drill holes for the three wall anchors with a 9/32" drill, 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 and install third (bottom) screw. Do not mount more than 6 ft. (1.8 m) above bottom of concentrate container, nor below the highest concentrate level (never mount your concentrate higher than the Streamline unit).
2. Select a metering tip for each eductor (see next section) and insert the tip into the hose barb on the eductor body.
3. 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.
4. 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)

5. If required, the optional Foam/Froth Reducing Tube can slide on the end of the grey 1 GPM eductor. Push the tube as far as possible. Warm the end of the tube for easy installation. Push the end of the outer discharge tube (ODT) onto the barb of the eductor outlet. If installed, slide it over the Foam/Froth Reduction Tube. This tube will reduce the amount of foam that may occur with some chemicals. It is not needed if your chemical does not foam.
6. A short discharge tube is used with 1 GPM eductors; minimum hose length is 7 in. (18 cm) for proper operation. Longer (4 ft.) hoses are used with 3.5 GPM eductors. Clamps for securing the 3.5 GPM tubes are provided. Hooks are provided to allow longer discharge tubes to conveniently hang from the side cabinet openings. Gently twist hook onto tube after starting the tube through the hook.
7. Place foot valve ends of supply tubes into concentrate containers. **REMEMBER TO CHECK FOOT VALVE STRAINER PERIODICALLY FOR CLOGGING: CLEAN IF NECESSARY.** Replace cabinet cover and screws.

Operation

1. Connect water supply hose of at least ½" ID to water inlet swivel. (Minimum 25 psi pressure, with water running, is required for proper operation.) Connect other end of hose to water supply. Turn water supply on.
2. 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.
3. 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
4. **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:

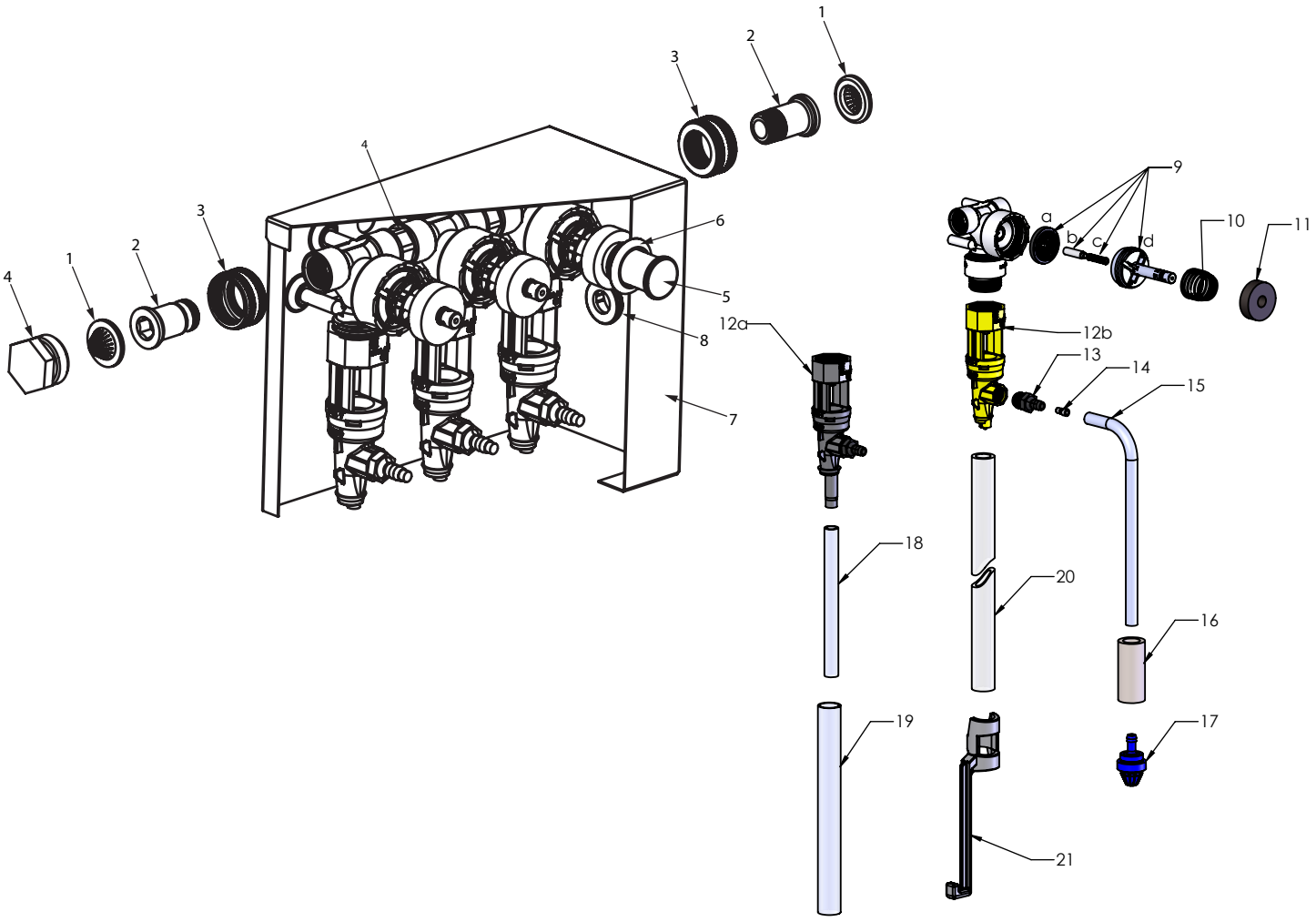
APPROXIMATE DILUTIONS
AT 40 psi FOR WATER-THIN PRODUCTS (1.0 CP)

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 (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.

parts diagram



Key	Part No.	Description
1	HYD238100	Strainer washer
2	HYD276701	Swivel Stem
3	HYD506502	Swivel Nut
4	HYD605201	Male garden hose plug
5	HYD643801 HYD643802 HYD643803 HYD643804 HYD643805	Button, green (includes #6 grommet) Button, red (includes #6 grommet) Button, yellow (includes #6 grommet) Button, blue (includes #6 grommet) Button, grey (includes #6 grommet)
6	HYD235900	Grommet
7	HYD471000 HYD472000 HYD473000 HYD473502	Cover, 1-button unit Cover, 2-button unit Cover, 3-button unit Cover, 4-button unit
8	HYD901500	Snap bushing (side holes)
9	HYD10075980	Valve parts kit a. diaphragm b. armature c. spring d. valve bonnet
10	HYD10079010	Spring

Key	Part No.	Description
11	HYD10079000	Magnet
12a b	HYD10099710 HYD10099713	1.0 GPM eductor - Gray 3.5 GPM eductor - Yellow
13	HYD3401R	Hose barb (included in eductor assemblies)
14	HYD690014	Metering tip kit
15	HYD500870	Tubing 1/4" x 7'
16	HYD509900	Weight
17	HYD10089410	Footvalve -Viton (EPDM also available. Order 10076302)
18	HYD10099721	Optional Foam Reduction Tube (1 GPM Only)
19	HYD10064794	1 GPM Discharge Tube (7")
20	HYD505804	3.5 GPM Discharge Tube (4')
21	HYD10080730	Hose hook, Dark grey (Standard)
	Not Shown: HYD641751 HYD643811 HYD643812 HYD643813 HYD643814 HYD643815	 Security screws (for cabinet sides) Locking button, green (includes 5 & 6) Locking button, red (includes 5 & 6) Locking button, yellow (includes 5 & 6) Locking button, blue (includes 5 & 6) Locking button, grey (includes 5 & 6)

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 (descale)* or replace
	c. Low water pressure	c. Minimum 25 psi (with water running) required to operate unit properly
	d. Discharge tube not in place	d. Push tube firmly onto eductor discharge hose barb
	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. Replace spring if short or weak
	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
6. Water discharge from air vents of 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 hose when beginning to operate dispenser.
	b. High water pressure	b. Install pressure regulator if flowing water pressure exceeds 85 psi.

* 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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HYD10083510 Rev C 12/23