

### Safety Precautions



**WARNING!** Please read precautions thoroughly before operation. Meet all applicable local codes and regulations.

For Units installed in Australia:

**THIS APPARATUS MUST BE INSTALLED IN ACCORDANCE WITH THE  
REQUIREMENTS OF THE PLUMBING CODE OF AUSTRALIA (PCA)  
AS/NZS 3500.1**

#### 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.
- 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.
- ALWAYS** reassemble equipment according to instruction procedures. Be sure all components are firmly screwed or latched into position.
- equipment clean to maintain proper operation.
- KEEP** only to water tap outlets (25 PSI Minimum, 85 PSI Maximum and Maximum water temperature 120° F).
- ATTACH** 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
- NOTE**

## introduction

### Package Contents

#### HYD35771

1) Proportioning unit	5) Metering tip kits (2)
2) Supply tubing 56' total	6) Discharge tubing for each eductor
3) Accessory kit (Mounting brackets and hardware)	7) Hose hook for 3.5 GPM eductor
4) Foot valve assemblies and weights (8)	8) Instruction sheet

## installation and operation

### Installation

- Find suitable place close to water source for unit. Mounting bracket should be installed approx. 5' from the floor. Level bracket and mark holes. Drill 9/32" holes and install mounting anchors and screws in bracket.
- Remove cabinet cover and hang cabinet on bracket. Mark hole for lower cabinet screw. Remove cabinet and drill 9/32" hole. Install anchor and screw in lower cabinet hole. When mounting unit, do not mount more than 5 feet from the floor. Also, never mount your concentrate container higher than the unit. Keyhole slots are also provided in the cabinet back if the mounting bracket won't be used.
- 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) can be used to block any valve port being used. (This may be used for dispensing water only.) Select and install a metering tip for the single product eductor (right side) in the same manner.

# installation and operation (continued)

- Cut tubing provided into separate supply tubes for each product to be dispensed (tubing allows 7 feet of tube per product). Supply tubes should reach from hose barbs on the selector valve body and eductor to bottom of concentrate containers. Slide ceramic weights over one end of each tube and slide foot valves into the same ends of the tubes.
- Slip other end of supply tube through an opening in either side of the cabinet and push over the hose barb/metering tip on the eductor. (Repeat for all eductors.)
- Place foot valve ends of supply tubes into concentrate containers. **REMEMBER TO CHECK FOOT VALVE STRAINERS REGULARLY FOR CLOGGING: CLEAN IF NECESSARY.**
- A short discharge tube is used with the 1.0 GPM eductor; minimum tube length is 8 inches (20cm) for proper operation. Longer tubes (4 feet) are used with a 3.5 GPM eductor. Do not remove the flooding rings from inside the tubes. Slide end of tube with flooding ring over eductor discharge outlet. (Repeat for all eductors.) Hooks may be installed on longer tubes to allow discharge tube to conveniently hang from dispenser when not in use.
- 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.
- Connect water supply hose of at least 3/8" 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.

## Operation

- 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.
- 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:** Depress button and slide button lock up. **To unlock, depress button and release.**
- 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 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 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:

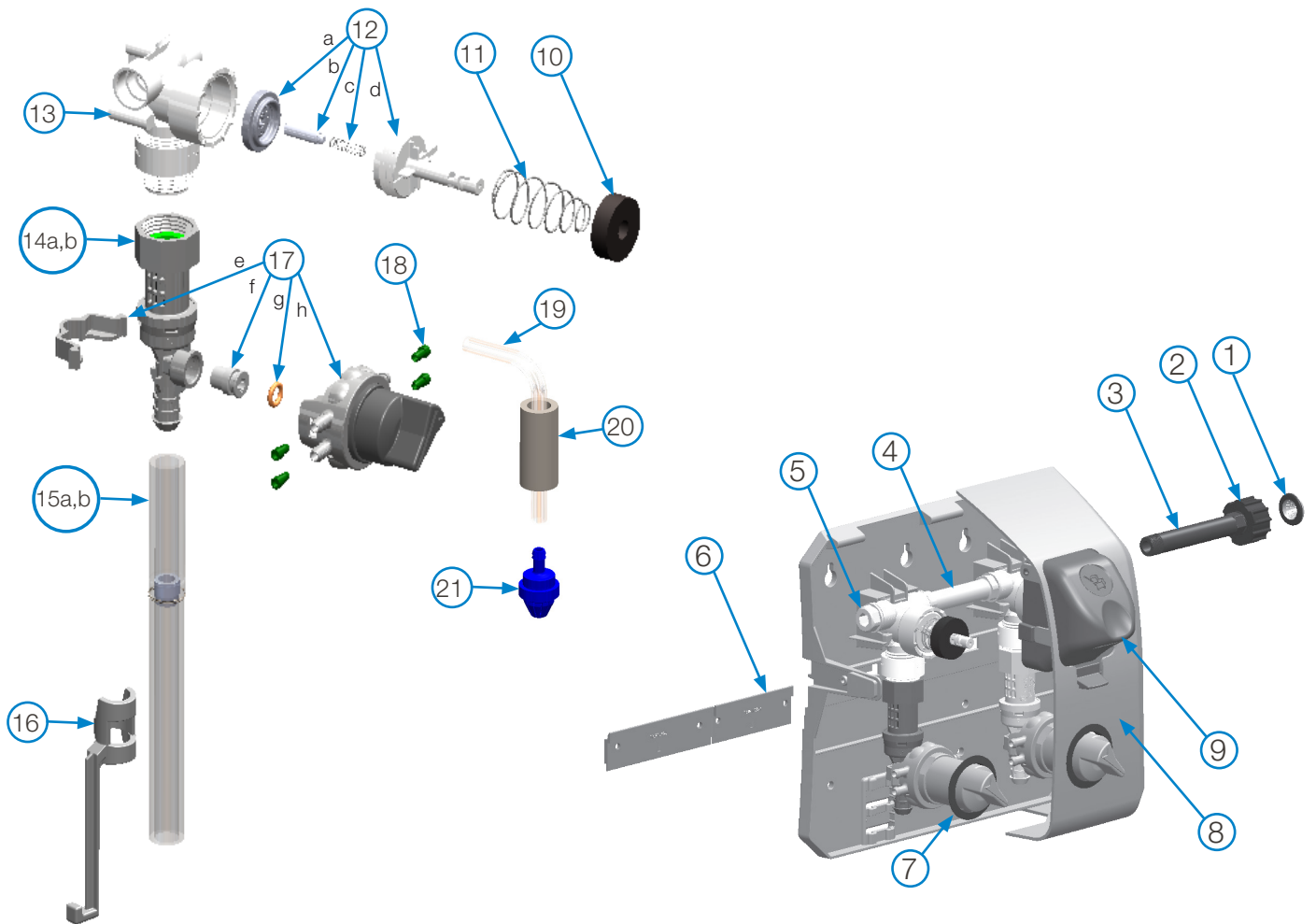
You can determine the dispensed water-to-product ratio for any metering tip size and product viscosity. All that is required is to operate the primed dispenser for a minute or so and note two things: the amount of dispensed solution, and the amount of concentrate used in preparation of the solution dispensed. The water-to-product ratio is then calculated as follows:

Tip Color	Orifice Size	APPROXIMATE DILUTIONS AT 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP)	
		Ratio (per Eductor Flow) 1.0 GPM	3.5 GPM
No Tip	.187	2.6:1	4:1
Grey	.128	2.6:1	4:1
Black	.098	2.5:1	5:1
Beige	.070	3:1	8:1
Red	.052	5:1	13:1
White	.043	7:1	22:1
Blue	.040	9:1	26:1
Tan	.035	11:1	34:1
Green	.028	17:1	52:1
Orange	.025	19:1	64:1
Brown	.023	22:1	71:1
Yellow	.020	32:1	102:1
Aqua	.018	39:1	128:1
Purple	.014	64:1	213:1
Pink	.010	128:1	447:1

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

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	HYD10082830	Swivel collar (molded)
	HYD10082835	Swivel collar BSPP (molded)
3	HYD10082811	Swivel stem (molded)
4	HYD10075902	Nipple, plastic 3/8" (2 btn models)
	HYD10075950	O-ring (two required per nipple)
5	HYD10098573	Kit, Pipe plug & o-ring
6	HYD10091035	Wall bracket
7	HYD10020700	Selector valve grommet
	HYD10020900	Back up ring for grommet
8	HYD10098545	Cabinet 2 button dual select
9	HYD10098821	Button, Bottle fill, process blue
	HYD10098824	Button, Bucket fill, process blue
10	HYD10079000	Magnet
11	HYD10079010	Spring
12	HYD10075980	Valve parts kit a. diaphragm, b. armature c. spring, d. valve bonnet

Key	Part No.	Description
13	HYD10075995	Water valve
14a	HYD290	1.0 GPM eductor assembly
b	HYD291	3.5 GPM eductor assembly
15a	HYD10088822	1.0 GPM discharge tube with flooding ring (8")
b	HYD90048495	3.5 GPM discharge tube with flooding ring (4")
16	HYD10080730	Hose hook dark grey (standard) for 3.5 GPM discharge tube
17	HYD10080956	Selector replacement kit: e. support clip, f. Suction stub g. O-ring, h. selector valve assembly
18	HYD690014	Metering tip kit
19	HYD500814	Tubing 1/4" x 14'
	HYD500821	Tubing 1/4" x 21'
20	HYD509900	Weight
21	HYD10089410	Footvalve -Viton (EPDM also available. Order 10076302)

Not Shown:  
HYD641751 Security screws (for cabinet sides)

# troubleshooting and maintenance

Problem	Cause	Solution
1. No discharge	a. No water	• Open water supply
	b. Magnetic valve not functioning	• Install valve parts kit
	c. Eductor clogged	• Clean* or replace
	d. Clogged water inlet strainer	• Disconnect inlet water line and clean strainer
2. No concentrate draw	a. Clogged foot valve	• Clean or replace
	b. Metering tip or eductor has scale build-up	• Clean* (descale) or replace
	c. Low water pressure	• Minimum 25 PSI (with water running) required to operate unit properly
	d. Discharge tube and/or flooding ring not in place	• Push tube firmly onto eductor discharge hose barb, or replace tube if it doesn't have a flooding ring
	e. Concentrate container empty	• Replace with full container
	f. Inlet hose barb not screwed into eductor tightly	• Tighten, but do not overtighten
	g. Clogged water inlet strainer	• Disconnect inlet water and clean strainer
	h. Air leak in chemical pick-up tube	• Put clamp on tube or replace tube if brittle
	i. Selector out of position	• Assure selector is in position desired
3. Excess concentrate draw	a. Metering tip not in place	• Press correct tip firmly into barb on eductor
	b. Chemical above eductor	• Place concentrate below the eductor
4. Failure of unit to turn off	a. Water valve parts dirty or defective	• Clean* or replace with valve parts kit
	b. Magnet doesn't fully return	• Make sure magnet moves freely
	c. Push button stuck	• 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	• 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) and 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, express 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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