HYDRO
a DOVER company

user manual

AccuMax™ 4P with E-Gap Eductors

Safety Precautions

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

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

introduction

Package Contents

HYD35781

1) Proportioning unit	5) Metering tip kits (2)
2) Supply tubing	6) Discharge tubing for each eductor
3) Wall bracket, mounting hardware	7) Hose hook for 3.5 GPM eductor
4) Foot strainers, weights, in-line check valves, hosebarb "Y"	8) Instruction sheet

installation and operation

Installation

1. Find suitable place close to a water source for unit. Remove wall bracket from packaging, place level on wall and mark (3) mounting holes. Drill (3) 5/16" holes and install anchors in wall. Secure wall bracket to wall with screws and washers provided. **NOTE:** The distance from the top of the wall bracket to the top of the cabinet is 1/8".
2. Place the cabinet onto the wall bracket aligning the tabs with the slots in the top of the cabinet. Also ensure the central snap on top of the wall bracket engages the cabinet. Mark the wall using the (2) lower holes, as guides, then remove cabinet from wall. Drill (2) 5/16" holes and install anchors in wall.
3. Select metering tips (up to four) for each 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 not being used for chemical. (This may be used for dispensing water only.)

installation and operation (continued)

4. Cut supply tube provided into seperate supply tubes for each product dispensed. Use "Y" fittings to connect both high and low flow eductor to a single container. Supply tubes should reach from hos barb on eductor select valve to the bottom of container for easy replacement of chemical. (See diagram page 3.) Prepare a tube for each barb of the select valve. SupplY tube routing to lower containers should pass through the cicular notch in the shelf back. **NOTE: ARROW ON IN-LINE CHECK VALVES SHOULD BE POINTED TOWARD THE EDUCTOR.**
5. 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. Install hose hook on longer tube to allow discharge tube to conveniently hang from dispenser when not in use.
6. 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. Maximum Pressure 85 PSI, Maximum water Temperature 120° F.)
7. Place the cabinet back onto the wall bracket (see #2) and secure the bottom of the cabinet to the wall with the screws provided. **NOTE: IT IS REQUIRED THAT THE BOTTOM (2) SCREWS BE INSTALLED.**
8. Install optional drip tray by aligning the four tabs on the tray with the four slots in the lower cabinet and push down.
9. If maintenance is required, remove the medallion cover from the unit by pushing inward on the two snap features located inside near the bottom of the medallion and rotate upwards. These snaps can be accessed by unlocking and opening thE doors (See Page 3).
10. Replace medallion cover. Insert the upper medallion tabs into the cabinet slots and swing down to engage lower medallion snaps on the inside of the cabinet. Ensure selector knobs are properly aligned. (See Diagram Page 3).

Operation

1. Connect opposite end of water inlet hose to water supply. Turn on water supply.
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. To operate button fill units, depress button to dispense product, release button to stop flow. **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.**

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:

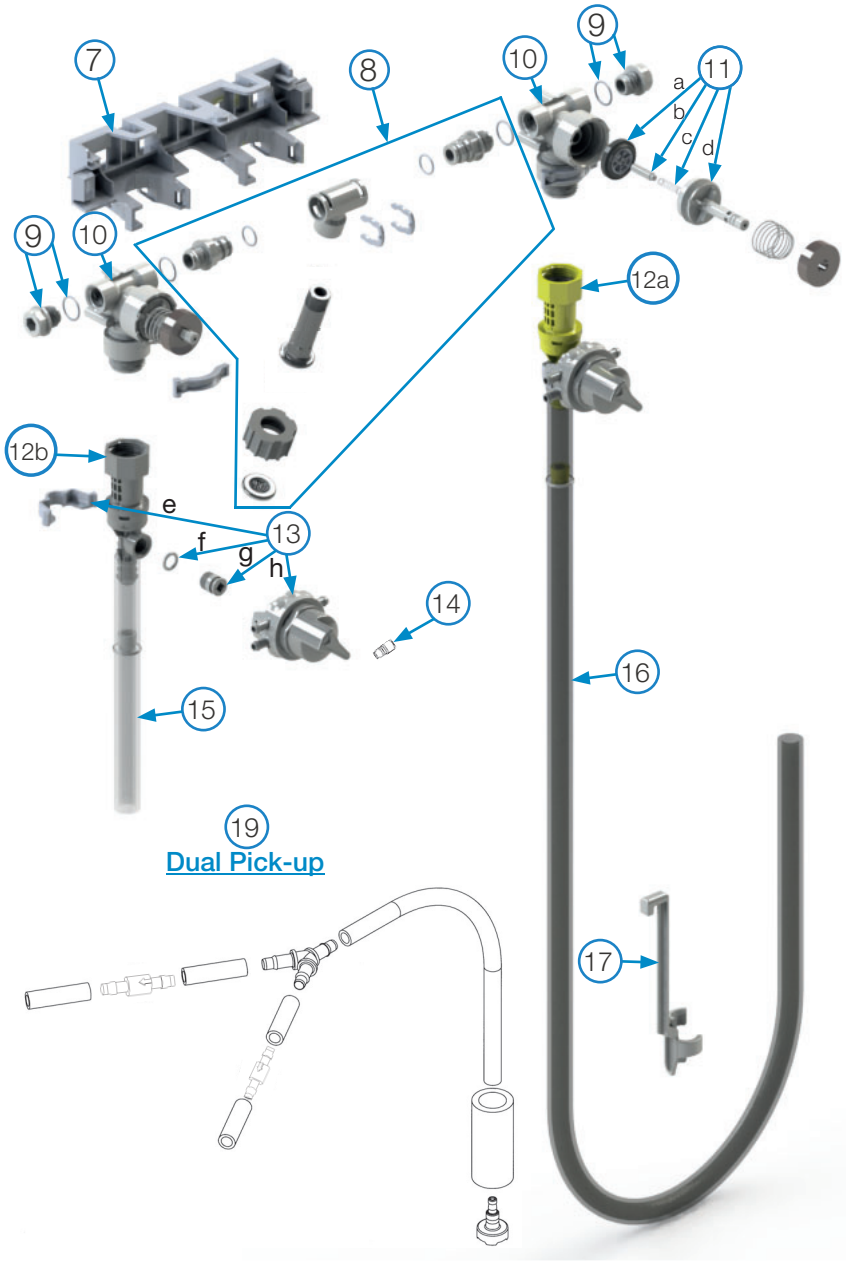
APPROXIMATE DILUTIONS
AT 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP)

Tip Color	Orifice Size	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

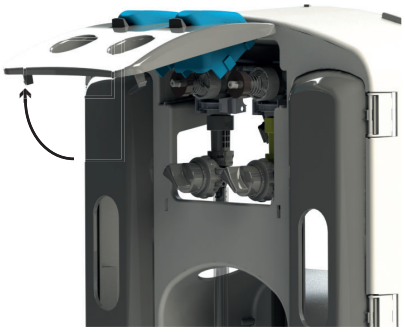
Dilution Ratio (X:1) where X = $\frac{\text{Amount of Mixed Solution — Amount of Concentrate Drawn}}{\text{Amount of Concentrate Drawn}}$

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.

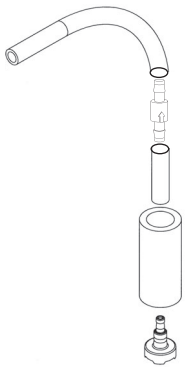
parts diagram



Access for Maintenance



18 Single Pick-up



19 Dual Pick-up

Key	Part No.	Description
1	HYD10098395 HYD10098394	Door, right side Door, left side
2	HYD10098821 HYD10098824	Button, Bottle fill, process blue Button, Bucket fill, process blue
3	HYD10098396	Medallion, AccuMax
4	HYD10098393	Cabinet, AccuMax
5	HYD10098403	Drip tray, dark grey (Optional)
6	HYD10088616 HYD10029509	Lock Clip for lock
7	HYD10098571	Kit, bracket, valve, 2 button
8	HYD10098572	Kit, water inlet
9	HYD10098573	Kit, pipe plug, 3/8 plastic
10	HYD10079000	Kit, ASm water valve,spring,magnet
11	HYD10075980	Valve parts kit a. diaphragm, b. armature c. spring, d. valve bonnet

Key	Part No.	Description
12a b	HYD290 HYD291	1.0 GPM eductor assembly 3.5 GPM edcutor assembly
13	HYD10080957	Kit, select valve replacement e. support clip, f. Suction stub g. O-ring, h. selector valve assembly
14	HYD690014	Metering tip kit
15	HYD10088822	1.0 GPM discharge tube with flooding ring (8“)
16	HYD90048495	3.5 GPM discharge tube with flooding ring (4‘)
17	HYD10080730	Hose hook dark grey (standard) for 3.5 GPM discharge tube
18	HYD10098575	Kit, single pick-up
19	HYD10098576	Kit, dual pick-up

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 disharge hose barb, or replace tube if it doesn't have a flooding ring
	e. Concentrate container empty	• Replace with full container
	f. Inelt hose barb not screwd 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
6. Door will not close properly	a. Hinges disengaging from cabinet	• Re-snap hinges into cabinet bfore closing door

* 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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