HYDRO

user manual

AccuMax™ QDV

For Models 35221, 35231, 35241, 35251, 35261, 35271

Safety precautions

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

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.

**********NOTE**********

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 lines 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.

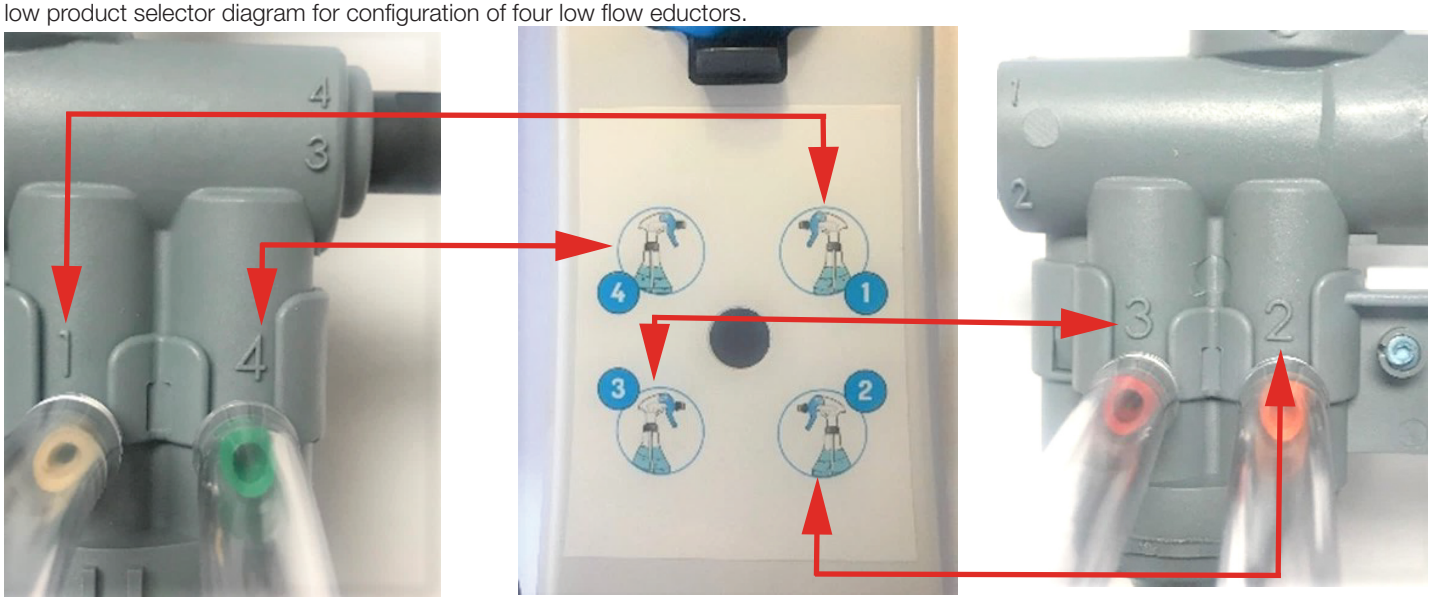
Introduction

Package contents:

1. Proportioner unit
2. Discharge tubes for QDV
3. Instruction sheet
4. Install Kit including:
   Screws (3), Anchors (3), In-line check valves (4),
   Meteing tip kit (2), weights (4), Supply tubing (21‘)
   Foot strainers (4), Select lever (1), Hose hook (1)

Installation

1. 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 5/16" holes and install mounting anchors and screws in bracket.
2. Remove dispenser cover by first pulling to remove the knob from the QDV valve, then depressing tabs on side of dispenser and pull the cover forward and off.
3. 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.
4. **NOTE: IT IS REQUIRED THAT A SAFETY SCREW BE INSTALLED.** Mark the wall using one of the lower holes in the back of the dispenser. Remove the dispenser from the mounting rail by rotating locking tabs toward the outside of the dispenser then lifting the dispenser off of the mounting rail. Drill 9/32" hole and install anchor. Reattach the dispenser to the mounting rail (see #4). Install security screw through the back of the dispenser into anchor in the wall.
5. Select metering tips (up to 4) for the QDV 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). The number on the side of the QDV valve corresponds to the numbers on the product selector level on the cover of the unit. Kindly refer below product selector diagram for configuration of four low flow eductors.



Location 4 is used to dispense water without chemical. The clear tip is installed in location 4 without drilling a hole on the tip. Refer below image.



6. Install four 5.5" precut lengths of tubing onto the four hose barb ports of the QDV valve. Insert four in-line check valves, with arrows pointing toward the QDV valve, into the open ends of the pre-cut lengths of tubing.
7. Cut supply tubing provided into separate supply tubes for each product to be dispensed. Supply tubes should reach from in-line check valve barb to bottom of concentrate container. Push one end of supply tube over the hose barb of the in-line check valve. Slide weight over end of each tube, then install foot strainers on ends of supply tubes before placing into concentrate containers. **REMEMBER TO CHECK FOOT STRAINERS PERIODICALLY FOR CLOGGING: CLEAN IF NECESSARY**
8. 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. Replace dispenser cover. Hook two bottom latches, and swing up to snap over button on the top of dispenser. Reinstall knob for QDV by pushing knob firmly onto stem.
9. A short discharge tube is used with the 1GPM eductor; minimum tube length is 8 inches (20cm) for proper operation. Longer tubes (6 feet) are used with a 3.5 GPM eductor. Slide end of tube over eductor discharge outlet. (Repeat for all discharge outlets.) Hooks may be installed on longer tubes to allow discharge tube to conveniently hang from dispenser when not in use.

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 button 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

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 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 GPM eductor is grey; a 3.5 GPM eductor is yellow. Refer to parts diagram if unfamiliar with names of system components.

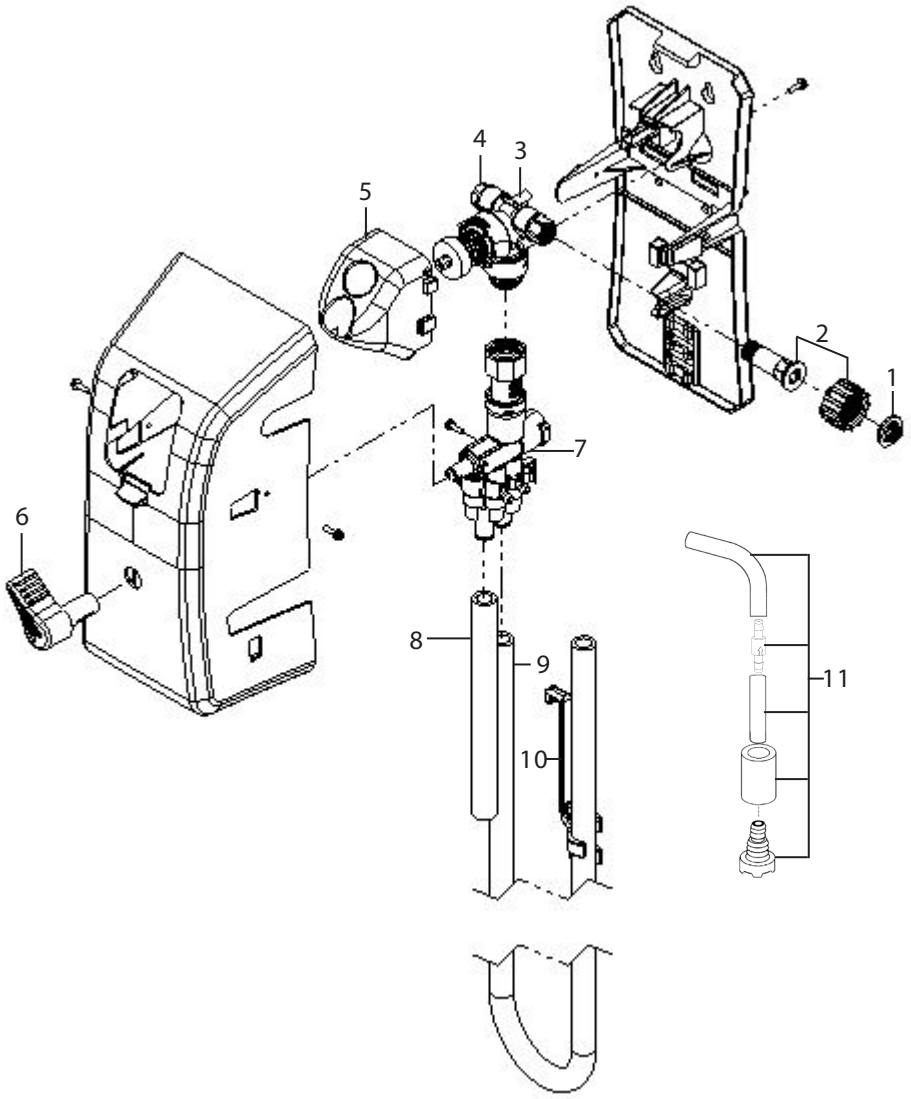
Measurement of Concentration:
You can determine the dispensed water-to-product ratio for any metering tip size and product viscosity. All that is required is to operate the primed dispenser for a minute or so and note two things: the amount of dispensed solution, and the amount of concentrate used in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

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

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.

APPROXIMATE DILUTIONS AT 40 PSI FOR WATER-THIN PRODUCTS (1.0 CP)			
Tip Color	Orifice Size	Ratio (per Eductor Flow) 1 GPM	3.5 GPM
No Tip	.187	3:1	3.5:1
Grey	.128	3:1	4:1
Black	.098	3:1	4:1
Beige	.070	4:1	8:1
Red	.052	5:1	14:1
White	.043	7:1	20:1
Blue	.040	8:1	24:1
Tan	.035	10:1	30:1
Green	.028	16:1	45:1
Orange	.025	20:1	56:1
Brown	.023	24:1	64:1
Yellow	.020	32:1	90:1
Aqua	.018	38:1	128:1
Purple	.014	64:1	180:1
Pink	.010	128:1	350:1

Parts list



Key	Part No.	Description
1	HYD238100	Strainer washer
2	HYD90096436	Kit, Water inlet, GH
	HYD10099447	Kit, Water inlet, BSPP
3	HYD10098574	Kit, ASM water valve, spring, magnet
	HYD10075980	Kit, water valve parts
4	HYD10098573	Kit, pipe plug or o-ring
5	HYD10098822	Kit, Button replacement
6	HYD10098827	Kit, selector replacement
7	HYD10090482	QDV, 3 low 1 high
	HYD10090480	QDV, 2 low 2 high
	HYD10090484	QDV, 4 low
	HYD10090408	QDV2 low, 1 high, 1 medium
	HYD10090491	QDV 2 low, 2 high, all 2.5 GPM
	HYD10091460	QDV 3 low, 1 high, all 2.5 GPM
8	HYD505808	Tube, 1.2” x 8”
9	HYD505806	Tube, 1.2” x 6”
10	HYD10080730	Hose hook, dark gray
11	HYD10098834	Kit, QDV single pick-up assembly

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. Metering tip or eductor has scale build-up	a. Clean (descale)* or replace
	b. Low water pressure	b. Minimum 25 psi (with water running) required to operate unit properly
	c. Discharge tube not in place	c. Push tube firmly onto eductor discharge hose barb, or replace tube
	d. Concentrate container is empty	d. Replace with full container
	e. Clogged water inlet strainer	e. Disconnect inlet water line and clean strainer
	f. Incorrect check valve installation	f. Refer to section **Installation and Operation**
	g. Air leak in pick-up tube	g. Put clamp on tube or replace tube if brittle
	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
4. Failure of unit to turn off	a. Push button stuck	a. Remove button and clean cabinet/button to remove excess dirt lodged in slide recess
	b. Magnet doesn‘t fully return	b. Make sure magnet moves freely Replace spring if short of weak
	c. Water valve parts dirty or defective	c. Clean or replace with valve parts kit
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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