

User Manual

Clothesline Fresh[®]
Laundry Dispenser
with Controller



calibration values

The Clothesline Fresh Laundry Dispenser has the ability for installers to manually enter a calibration factor or value for each pump based on the product being used. This is a big time-saving feature over traditional peristaltic pump dispensers.

Product CRT No.	Product Name	Manual Calibration Values (oz/min)
7001	Clothesline Fresh Laundry Break	16
7002	Clothesline Fresh BLD	16
7003	Clothesline Fresh Laundry Detergent	18
7004	Clothesline Fresh Chlorine Bleach	16
7005	Clothesline Fresh Color Safe Bleach	17
7006	Clothesline Fresh Fabric Softener	18
7007	Clothesline Fresh Softener Sanitizer	18
7008	Clothesline Fresh Laundry Sour	17
7009	Clothesline Fresh Sour Softener	17
7010	Clothesline Fresh Xtreme Hard Water Alkaline Detergent	16
7011	Clothesline Fresh Enzyme Detergent	18
7012	Clothesline Fresh No Dye - No Fragrance BLD	16
7013	Clothesline Fresh No Due - No Fragrance Laundry Detergent	18
7014	Clothesline Fresh Anti-Chlor	16
7015	Clothesline Fresh Xtreme Oxygen Bleach	16
7016	Clothesline Fresh Liquid Alkali	15
7017	Clothesline Fresh Xtreme Laundry Sour	16
7018	Clothesline Fresh Detergent EP	17
7019	Clothesline Fresh Softener EP	18
7020	Clothesline Fresh Oxygen Bleach EP	16
7021	Clothesline Fresh Oxygen Detergent EP	17
7022	Clothesline Fresh Liquid Laundry Starch	15
7023	Clothesline Fresh Detergent SE	15

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1.00 overview

Safety Precautions



WARNING! Please read these warnings carefully and follow all applicable local codes and regulations.

THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS!

TO AVOID SERIOUS PERSONAL INJURY AND PROPERTY DAMAGE:

- WEAR** protective clothing and eyewear when dispensing chemicals or other materials, when working in the vicinity of chemicals, and when filling or emptying equipment.
- ALWAYS** read and follow all safety instructions in safety data sheets (SDS) for all chemicals.
observe all safety and handling instructions of chemical manufacturer.
dilute and dispense chemicals in accordance with chemical manufacturer's instructions.
direct discharge away from you and other persons and into approved containers.
regularly inspect equipment and keep equipment clean and properly maintained.
install using a qualified technician only, in accordance with all applicable electrical and plumbing codes.
disconnect all power to dispenser during installation, service, and/or any time dispenser cabinet is opened.
- NEVER** mix incompatible chemicals that pose hazards.

1.01 Package Contents

1) Clothesline Fresh Laundry Dispenser (part number varies by model)	5) Chemical Pick-up Tube Kit (optional) (part number varies by model)
2) Quick Start Guide (not shown) (P/N HYD20-08808-00)	6) Backflow Preventer (optional) (P/N HYD105)
3) Accessory Kit (not shown) (Mounting brackets and hardware)	7) Machine Interface (P/N HYD10-03609-00)
4) Cover Key (not shown) (P/N HYD10097834) (Included in Accessory Kit)	8) Controller (P/N HYD01-08900-11)



1.02 Operation

The Clothesline Fresh Laundry Dispenser is a low maintenance, venturi-based laundry chemical dispenser. It is used with a separate controller and machine interface. The Clothesline Fresh Laundry Dispenser can be used for applications requiring 2 – 6 products and offers an integrated flush manifold. This manual contains instructions for installing, operating and troubleshooting the dispenser.

NOTE! The Clothesline Fresh Laundry Dispensers is intended for use in industrial applications. It is not suitable for domestic use, and it must not be used outside of its intended use. The product must only be used for commercial laundry operation. The manufacturer waives any responsibility arising from incorrect usage or transportation.

1.00 overview (continued)

1.03 Model Numbers and Features

Model Number	Number Of Products	Flow Rate	Controller Included	Machine Interface (MI) Included
964600	4	Low Flow	Yes	Yes
964700	6	Low Flow	Yes	Yes

1.04 General Specifications

Category	Specification
Electrical	110V to 240V AC at 50-60 Hz to 0.8 Amps
Water Pressure Rating	Min: 25 PSI (1.5 Bar - 0.18 mPa) Max: 90 PSI (6 Bar - 0.6 mPa)
Inlet Water Temperature Rating	Between 40°F and 140°F (5°C and 60°C)
Chemical Temperature Rating	Intake chemicals should be at room temperature
Cabinet Material	Front: ASA Rear: PP-TF
Environmental	Pollution: Degree 2, Temperature: 50°-160° F (10°-50° C), Maximum Humidity: 95% Relative
Dimensions	4-Product: 8.7 in (220 mm) High x 10.7 in (270 mm) Wide x 6.4 in (162 mm) Depth 6-Product: 8.7 in (220 mm) High x 14.2 in (360 mm) Wide x 6.4 in (162 mm) Depth

2.00 installation

2.01 Site Survey & Installation Requirements



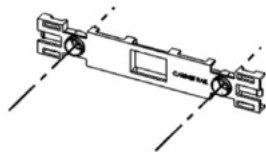
CAUTION! Before an installation takes place it is advisable to complete a site survey to ensure the Clothesline Fresh Laundry Dispenser can be installed in a position that meets all of the requirements listed below.

- The Clothesline Fresh Laundry Dispenser cannot be connected directly to a laundry machine to provide power. The Clothesline Fresh Laundry Dispenser can only be connected to a wall outlet providing 110V – 240V at 50 – 60 Hz. If no wall outlet is available, a standard eclipse dispensing unit must be used in place of the Clothesline Fresh Laundry Dispenser.
- Unit is to be installed by a trained technician; all local and national electrical and water regulations are to be observed.
- Unit must not be installed near areas that suffer excess temperature changes, direct sunlight, frost or moisture of any kind.
- Area must be free of high levels of electrical noise.
- Ensure the unit can be mounted in an accessible position above the height of the required discharge location.
- Unit must be mounted on a suitable wall, that is flat and perpendicular to the floor.
- The unit location should be well lit for any maintenance and free of high levels of dust / air particulates.
- Scheduled maintenance should be carried out on the dispenser at least once per year.
- A locally approved back-flow prevention device - not provided - may be required for safe and legal operation. Hydro Systems offers an approved back-flow prevention device as an option, if one is needed (part number HYD105).

2.00 installation (continued)

2.02 Mounting Kit

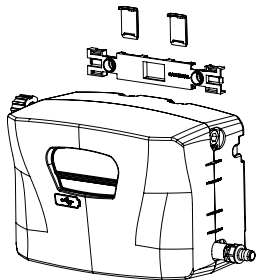
1) Choose a location near to the laundry machine. Use the mounting bracket to mark the appropriate mounting location and as a hole template to mark the securing holes.



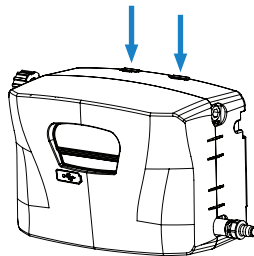
2 – 6 product: 1 bracket

2) Wall anchors are provided, please ensure they are appropriate to the wall/surface being mounted to.

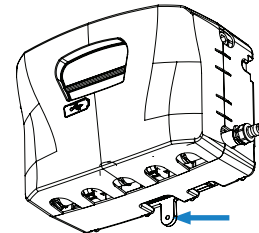
3) Mount the dispenser onto the mounting bracket. Push down the clips to secure the unit.



Hang unit on bracket.



Push down clips.



Secure with screw.

4) Secure the dispenser at the bottom, with the remaining screw provided.

NOTE! Please secure any cables so that it does not create a hazard for the operator.

2.03 Incoming Water Supply

1) Connect incoming water supply using fittings provided. This will either be a 3/4" female Garden Hose, or a 1/2" O.D. push-fit connector. Ensure the incoming water supply hose is supported to prevent unnecessary force on the inlet fittings.

2) A locally approved back-flow prevention device - not provided - may be required for safe and legal operation. Hydro Systems offers an approved back-flow prevention device as an option, if one is needed (part number HYD105).

3) Although it is possible to have the water inlet on either side of the dispenser, the outlet will always need to be on the right.



2.04 Route Discharge Hose to Machine

1) Connect outlet (see above) to the washing machine using 1/2" ID flexible braided PVC hose.

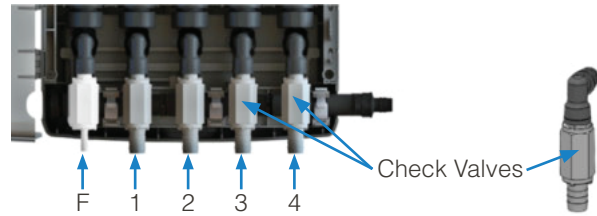
2) Secure PVC hose to barb with a hose clamp.

2.00 installation (continued)

2.05 Routing Pickup Tubes




1) Use Cover Key to open cabinet

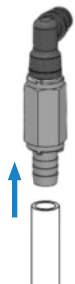


2) Check Valves Installed

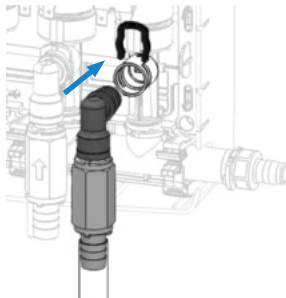
- 1) Use Cover Key to open cabinet. Push key into the bottom of the center slots on the right side to release, then lift cover.
- 2) The check valves are supplied detached, in a bag with the unit. **To prevent damage to the dispenser, install hoses to the check valves before connecting the check valves to the manifold!**
- 3) The eductors are designated from left to right in the following order:
 - 4-product units (single cabinet): F, 1, 2, 3, 4
 - 6-product units (single cabinet): F, 1, 2, 3, 4, 5, 6

 **WARNING! Not not connect any chemical hoses to the (F) Flush position!**

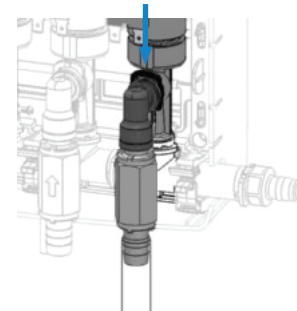
- 4) Measure the distance from the eductor to the base of the respective chemical container.
- 5) Cut the 3/8" ID flexible PVC Hose tube to that length.
- 6) Push the PVC hose on to the detached check valve and secure with cable tie, then push the check valve elbow into the eductor and secure with the push-on clip, as shown in the diagrams below.



6a) Install hose first.



6b) Push elbow into eductor.



6c) Secure with clip.

- 7) Place the inlet hose into the container, or if using a closed-loop packaging connect the inlet hose to the container.

2.06 Power Connection

- 1) Install the controller and the Machine Interface using the separate instruction sheets for those products.
- 2) Connect the Clothesline Fresh Laundry Dispenser to the controller via the pre-wired J1 cable coming from the dispenser.
- 3) Connect the wall power adapter to a wall outlet providing 110V to 240V AC at 50-60 Hz to 0.8 Amps.
- 4) It is a legal requirement to allow disconnection of the appliance from the power supply after installation. The disconnection may be achieved by having the plug accessible or by incorporating a switch in fixed wiring in accordance with wiring rules.



WARNING! Wires and hoses left hanging loose may be a tripping hazard, and could result in equipment damage. Ensure all cables are secure. Be sure the tubing will be out of the way of walkways and will not impede motion required in the area. Creating a low place in the run of tubing will minimize drainage from the tubing.

2.00 installation (continued)

2.07 Programming

- 1) Programming will be accomplished using the connected controller. Please use the controller documentation to complete this step.

3.00 maintenance

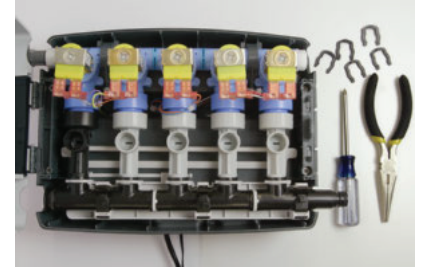
3.01 Preparation

- 1) Unplug power cable from wall to disconnect incoming main power supply.
- 2) Shut off the water supply to the system and disconnect the inlet water supply line and outlet discharge tubing.
- 3) Disconnect the check valves from the eductors (see step 6 in section 2.0.5) and drain chemical lines back into their containers.



WARNING!

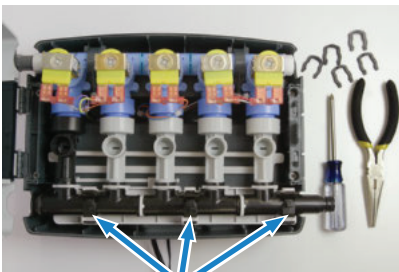
Before performing any maintenance, disconnect the incoming power source!



3.01 4-Product Dispenser Prepared for Maintenance

3.02 Maintenance for Lower Manifold, Eductor or Solenoid

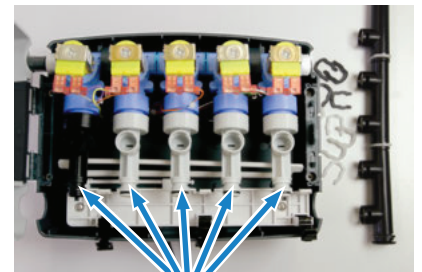
- 1) Perform 3.01 Preparation, then release the swinging snap clamps holding the lower manifold in the cabinet. (Note: 6-product units use gray half-circle clamps to secure the lower manifold, like the ones used for the upper manifold.)
- 2) Pivot the lower manifold assembly upward, and use the “kickstand” behind the eductors to support the manifold. (If the manifold is difficult to turn upward, slightly loosen the two upper manifold screws shown in step 6.)
- 3) Pull off the clips holding the lower manifold to the eductors and remove the lower manifold.



1) Release Lower Manifold



2) Lift Lower Manifold and support with “kickstand”



3) Pull clips holding Lower Manifold to Eductors and remove

- 4) Inspect the manifold, its joint O-rings, and the eductor O-rings for damage and replace any damaged parts, as necessary.

(To maintenance an eductor or solenoid, proceed to step 5. Otherwise skip to step 14 to begin reassembly.)

- 5) Unscrew the eductor from the upper manifold and remove it. Inspect the eductor and its O-ring for damage. Repair or replace parts as needed.

(To maintenance a solenoid, proceed to step 6. Otherwise skip to step 13 to begin reassembly.)



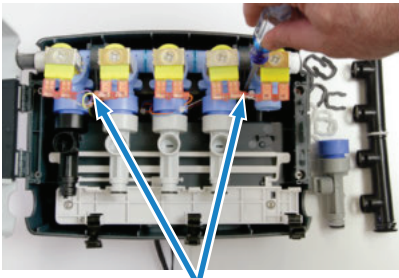
4) Unscrew Eductor and Inspect

(continued)

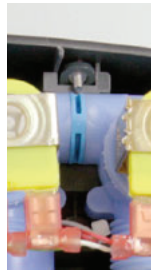
3.00 maintenance (continued)

3.02 Maintenance for Lower Manifold, Eductor or Solenoid (continued)

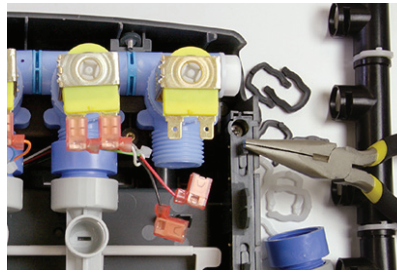
- 6) Unscrew the screws holding the two half-circle clamps that secure the upper manifold.
- 7) Rotate the clamps back, out of the way.
- 8) Use pliers to carefully unplug the solenoid electrical connections.
- 9) Lift the upper manifold to provide clearance to unscrew solenoid.



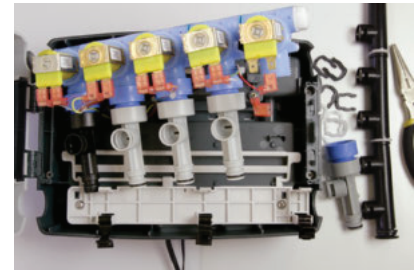
6) Unscrew Upper Manifold Clamps



7) Rotate Clamps

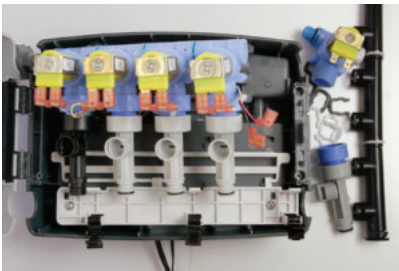


8) Unplug Solenoid Electrical Connections

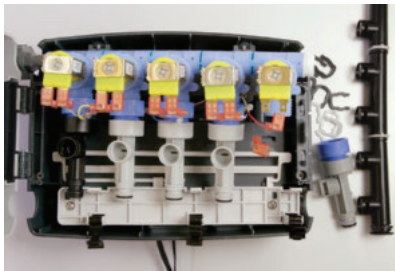


9) Lift Upper Manifold

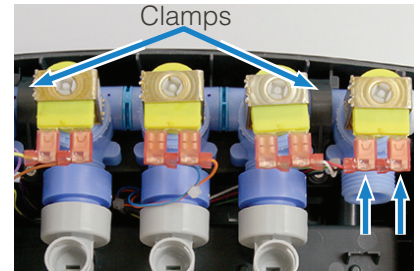
- 10) Unscrew the solenoid from the upper manifold and remove it. Inspect Solenoid and O-ring. Repair or replace as needed. **(Note: Eductor 4 is used in this example. Other positions may require multiple eductor or solenoid removal.)**
- 11) Screw on the new replacement or existing solenoid. Tighten enough to prevent leaks and to orient outlet downward.
- 12) Lower Upper Manifold back into position, secure with half-circle clamps (which can be pushed forward from the back of the cabinet) and reconnect the solenoid electrical connections.



10) Unscrew Solenoid and Inspect

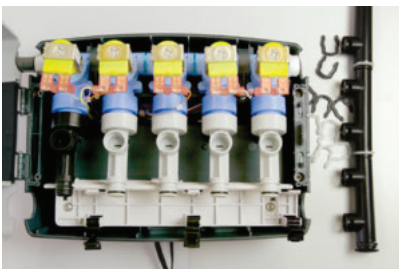


11) Screw on new replacement or existing Solenoid

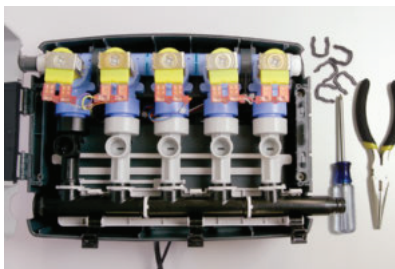


12) Secure Upper Manifold clamps and reconnect Solenoid power

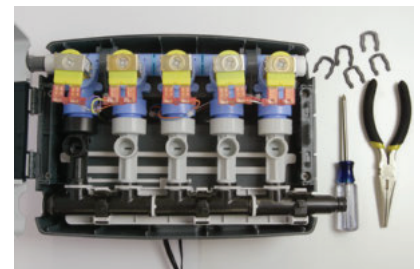
- 13) Screw on the new replacement or existing eductor. Tighten enough to prevent leaks and to orient intake outward.
- 14) Reattach the lower manifold, pushing it onto the eductors, and secure the manifold to the eductors using the clips.
- 15) Secure the lower manifold with the swinging snap clamps (or half-circle clamps on the 6-product model). **(Note: If you loosened the two upper manifold screws, and have not tightened them yet, tighten them now.)**



13) Screw Eductor onto Solenoid



14) Reattach Lower Manifold to Eductors



15) Secure Lower Manifold

3.00 maintenance (continued)

3.03 Return Dispenser to Service

1) Returning Dispenser to Service: (Not shown)

- a. Reconnect and secure the chemical intake check valves to the dispenser. (See Step 6 in Section 2.0.5.)
- b. Reconnect the water inlet and outlet tubing and turn on the incoming water supply. Check for leaks.
- c. Plug the power cable into the wall outlet to connect the incoming main power supply.
- d. Follow the procedure in the controller menu for priming the chemical pickup lines. Check for leaks again.

4.00 troubleshooting

Problem	Cause	Solution
1. Dead controller display	a. No Power at source.	<ul style="list-style-type: none"> • Check power to dispenser from the outlet. • Check that the wall transformer is delivering 24 VDC. • Check the J1 cable connection at the controller.
	b. Defective PI PCB, J1 cable or controller.	<ul style="list-style-type: none"> • Check operation of each component, replace as needed.
2. No flow of water from the outlet of the dispenser upon receipt of signal or prime (for all products)	a. Water source is turned off.	<ul style="list-style-type: none"> • Restore water supply.
	b. Water inlet screen/filer is clogged.	<ul style="list-style-type: none"> • Clean or replace water inlet screen/filter.
	c. Defective PI PCB, J1 cable or controller.	<ul style="list-style-type: none"> • Check operation of each component, replace as needed.
3. No flow of water from the outlet of the dispenser upon receipt of signal or prime (for some but not all products)	a. Loose solenoid connection or failed solenoid.	<ul style="list-style-type: none"> • Check solenoid connections and voltage at solenoid.
	b. Defective J1 cable.	<ul style="list-style-type: none"> • Check J1 cable operation and replace as needed.
	c. Clogged eductor	<ul style="list-style-type: none"> • Check eductor and clean or replace as needed,
4. No flow of water from the outlet of the dispenser upon receipt of signal (but products prime OK)	a. Product(s) not calibrated	<ul style="list-style-type: none"> • Calibrate products as needed.
	b. No washer signal, or signal wire is loose.	<ul style="list-style-type: none"> • Verify washer program and check signal wire connections.
	c. Damaged J2 cable.	<ul style="list-style-type: none"> • Check J2 cable operation and replace as needed.
	d. Defective Machine Interface (MI), J2 cable, or controller.	<ul style="list-style-type: none"> • Check operation of each component, replace as needed.
5. Not counting loads	a. "Count Pump" not running.	<ul style="list-style-type: none"> • Ensure the "Count Pump" is selected properly and that it is getting a signal to run. • Check water inlet hoses for kinks or obstructions, repair or replace as needed. • Check water inlet screen for obstruction, clean or replace as needed. • If the solutions above do not fix the issue, take measures to boost the water pressure above 25 PSI.
6. Insufficient or incomplete draw of chemical.	a. Insufficient water pressure.	<ul style="list-style-type: none"> • Check water inlet screen for obstruction, clean or replace as needed. • If the solutions above do not fix the issue, take measures to boost the water pressure above 25 PSI.
	b. Clogged chemical check valve.	<ul style="list-style-type: none"> • Replace the clogged check valve assembly.
	c. Clogged eductor.	<ul style="list-style-type: none"> • Isolate the unit from the water supply, locate the troubled eductor, and replace the eductor.
	d. Incorrect pick-up tubing installation.	<ul style="list-style-type: none"> • Check pickup tubing for kinks or loops. Ensure that the tubing is installed below the fluid level in the container.
7. Continuous flow of water while dispenser is idle.	a. Debris in solenoid valve.	<ul style="list-style-type: none"> • Ensure inlet strainer is attached and replace affected solenoid.
	b. Defective PI PCB or J1 Cable.	<ul style="list-style-type: none"> • Check operation of each component, replace as needed.
8. Loss of chemical prime or water entering the chemical container.	a. Failed eductor check valve and/or failed in-line umbrella check valve.	<ul style="list-style-type: none"> • Replace failed valves and check chemical compatibility.
	b. Air leak in system.	<ul style="list-style-type: none"> • Find and repair any air leaks in the system.
9. Water or chemical leak	a. Chemical attack or damage to seal.	<ul style="list-style-type: none"> • Isolate the unit from the water supply, locate the exact source of the leak and replace any damaged seals and components.
10. Incomplete delivery of chemical to the washer.	a. Insufficient flush time.	<ul style="list-style-type: none"> • Increase the flush time (rule of thumb is 1 second per ft).
	b. Kinked or damaged delivery tubing.	<ul style="list-style-type: none"> • Remove any kinks and/or replace delivery tubing as needed.

5.00 service parts

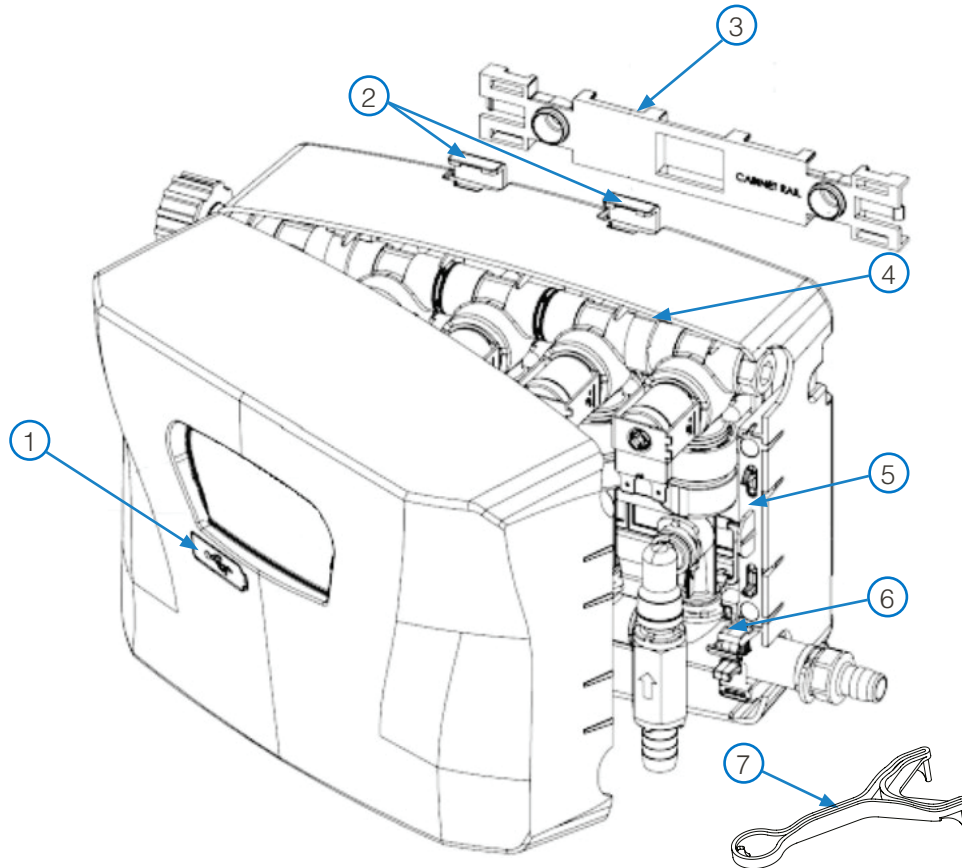


WARNING! Components shown on the following pages should only be replaced by a competent engineer.

Any components not listed within this section should not be attempted to be replaced without the advice of Hydro Systems. (Any unauthorized attempts to repair the unit will invalidate the warranty.)

Before any maintenance, disconnect the incoming power source!

5.01 Exploded Parts Diagram (cabinet)



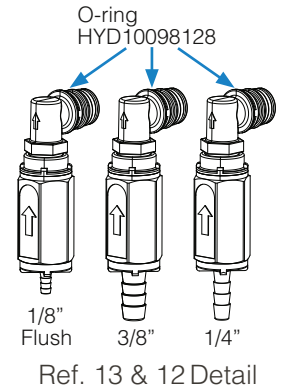
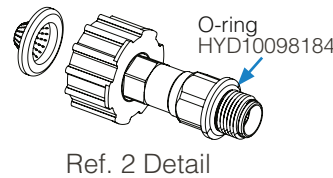
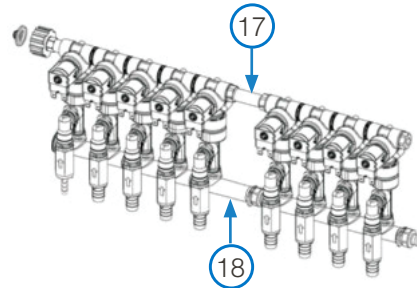
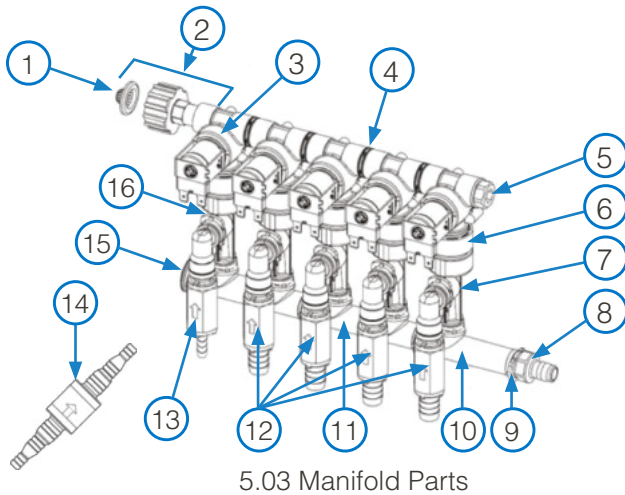
5.01 Cabinet Parts

5.02 Service Part Numbers (cabinet)

Reference	Part #	Description
1	HYD10097831	USB Port Cover
2	HYD10098139	Wall Bracket Clip Kit (Contains 2 wall bracket clips)
3	HYD10094361	Wall Bracket
4	HYD10098136	Top Manifold Clip Kit (Contains 2 manifold clips, 2 screws and 2 washers) 4-product model uses 1 kit, 8-product model uses 2 kits. 6-product model uses 2 kits, 1 for the top manifold and 1 for the bottom manifold.
5	HYD10098138	Lock Assembly
6	HYD10098194	Bottom Manifold Clip Kit (3 clips) 4 and 8-product models only. 4-product uses 1 kit, 8-product uses 2 kits.
7	HYD10097834	Cover Key
	HYD10098944	Front Cover Label Pack (Not shown)

5.00 service parts (continued)

5.03 Exploded Parts Diagrams (manifold)



5.04 Service Part Numbers (manifold)

Reference	Part #	Description
1	HYD238100	Strainer Washer
2	HYD10098177	3/4" Garden Hose Water Inlet Assembly (includes Strainer Washer)
	HYD10098184	EPDM O-ring (10 pack) - Not shown, used on Ref. 2, 3, 4 and 5
3	HYD10095315	Solenoid Water Valve, 24V DC
	HYD10098193	EPDM Washer 1/8 in x 1 in (10 pack) - Not shown, used on Ref. 3
4	HYD10098191	Valve Nipple Assembly (includes 2 O-rings)
5	HYD10075926	End Plug
6	HYD10097806	Valve Spacer
	HYD10098126	EPDM Washer 4 mm x 25 mm (10 pack) - Not shown, used in Ref. 6
7	HYD10098196	Low Flow Eductor - 1/2 GPM
	HYD10098195	High Flow Eductor - 1 GPM
	HYD10098128	Aflas O-ring (10 pack) - Not shown, used on Ref. 7, 8, 10, 11, 12, 13, 15, 16 and 18
8	HYD10095314	1/2" Hose Barb
9	HYD10098185	Dispenser Clip - Kynar (10 Pack), used on Ref. 7, 8, 10, 11, 12, 13, 15, 16 and 18
10	HYD10095304	Single-port Manifold
11	HYD10095309	Double-port Manifold
12	HYD10098187	Eductor Check Valve and Elbow Assembly, 3/8" Barb (PVC, Aflas, Teflon, Hastelloy with Kynar Elbow)
	HYD10098186	Eductor Check Valve and Elbow Assembly, 1/4" Barb (PVC, Aflas, Teflon, Hastelloy with Kynar Elbow)
13	HYD10098188	Flush Check Valve and Elbow Assembly, 1/8" Barb (NOT for chemical connection!)
14	HYD10076314	Inline Check Valve Kit (4-pack) for Chemical Intake Tube, 1/4"-3/8"-1/2" barbs
	HYD10076316	Inline Check Valve Kit (6-pack) for Chemical Intake Tube, 1/4"-3/8"-1/2" barbs
15	HYD10095305	Manifold End Plug
16	HYD10097801	Flush Eductor - 1 GPM
17	HYD10075904	Pipe Nipple
18	HYD10098140	Manifold Joiner
	HYD10098189	Chemical Intake Tubing Kit, one 7-foot length of 3/8" braided PVC tubing and 2 clamps - Not shown
	HYD10098190	Chemical Intake Tubing Kit, one 7-foot length of 1/4" braided PVC tubing and 2 clamps - Not shown

6.00 warranty

6.01 Limited Warranty

The Clothesline Fresh Laundry Dispenser is manufactured by Hydro Systems (3798 Round Bottom Rd., Cincinnati, OH 45244) for Spartan Chemical.

Hydro 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 **Hydro'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.**

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

6.02 Limitation of Liability

Hydro's warranty obligations and **Buyer's** remedies are solely and exclusively as stated herein. **Hydro** 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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