HYDRO Systems EvoClean with Total Eclipse Controller User Manual

Contents

HYDRO Systems EvoClean with Total Eclipse Controller

Safety Precautions

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

- 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.

Package Contents

1) EvoClean 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 (optional) (P/N HYD10-03609-00)
4) Inline Umbrella Check Valve Kit (not shown) (part number varies by model)	8) Total Eclipse Controller (optional) (P/N HYD01-08900-11)

overview

Model Numbers and Features

EvoClean Build Options:

- Number of Products: 4 = 4 Products 6 = 6 Products 8 = 8 Products
- Flow Rate: L = Low Flow H = High Flow
- Check Valve Barb Size: 2 = 1/4 inch Barb 3 = 3/8 inch Barb 5 = 1/2 inch Barb
- Outlet Barb Size: 3 = 3/8 inch 5 = 1/2 inch
- Water Inlet Style: G = Garden J = John Guest B = BSP
- Total Eclipse
- Controller Included: Yes = TE Controller is Included (blank) = TE Controller is not Included
- Machine Interface: Yes = Machine Interface is Included (MI) Included (blank) = Machine Interface is not Included

Popular NA Models									
HYDE124L35GTEM	HYD	E12	**4**	L	3	5	G	Yes	Yes
HYDE124H35GTEM	HYD	E12	**4**	H	3	5	G	Yes	Yes
HYDE124L35G	HYD	E12	**4**	L	3	5	G		
HYDE124H35G	HYD	E12	**4**	H	3	5	G		
HYDE126L35GTEM	HYD	E12	**6**	L	3	5	G	Yes	Yes
HYDE126H35GTEM	HYD	E12	**6**	H	3	5	G	Yes	Yes
HYDE126L35G	HYD	E12	**6**	L	3	5	G		
HYDE126H35G	HYD	E12	**6**	H	3	5	G		
HYDE128L35GTEM	HYD	E12	**8**	L	3	5	G	Yes	Yes
HYDE128H35GTEM	HYD	E12	**8**	H	3	5	G	Yes	Yes
HYDE128L35G	HYD	E12	**8**	L	3	5	G		
HYDE128H35G	HYD	E12	**8**	H	3	5	G		

Popular APAC Models

HYDE124L35BTE MAPAC	HY D	E12	4	L	**3**	5	B	Yes	Yes
HYDE124H35BTE MAPAC	HY D	E12	4	H	**3**	5	B	Yes	Yes
HYDE126L35BTE MAPAC	HY D	E12	6	L	**3**	5	B	Yes	Yes
HYDE126H35BTE MAPAC	HY D	E12	6	H	**3**	5	B	Yes	Yes
HYDE128L35BTE MAPAC	HY D	E12	8	L	**3**	5	B	Yes	Yes
HYDE128H35BTE MAPAC	HY D	E12	8	H	**3**	5	B	Yes	Yes
HYDE124L55BTE MAPAC	HY D	E12	4	L	**5**	5	B	Yes	Yes
HYDE124H55BTE MAPAC	HY D	E12	4	H	**5**	5	B	Yes	Yes
HYDE126L55BTE MAPAC	HY D	E12	6	L	**5**	5	B	Yes	Yes
HYDE126H55BTE MAPAC	HY D	E12	6	H	**5**	5	B	Yes	Yes
HYDE128L55BTE MAPAC	HY D	E12	8	L	**5**	5	B	Yes	Yes
HYDE128H55BTE MAPAC	HY D	E12	8	H	**5**	5	B	Yes	Yes

General Specifications

Category	Specification	
Electrical (Dispenser)	110V to 240V AC at 50-60 Hz up to 0.8 Amps	
Water Pressure Rating	Minimum: 25 PSI (1.5 Bar – 0.18 mPa) Maximum: 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	
Regulatory Approvals	North America: Conforms to: ANSI/UL Std. 60730-1:2016 Ed. 5 Certified to: CAN/CSA Std. E60730-1 2016 Ed. 5 Global: Conforms to: 2014/35/EU Conforms to: 2014/30/EU Certified to: IEC 60730-1:2013, AMD1:2015 Certified to: EN 61236-1:2013	
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
	8-Product:	8.7 in (220 mm) High x 22.2 in (565 mm) Wide x 6.4 in (162 mm) Depth

installation

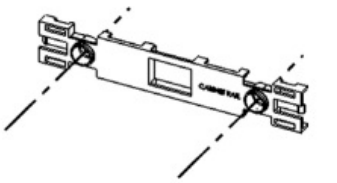
CAUTION! Before an installation takes place it is advisable to complete a site survey to ensure the EvoClean can be installed in a position that meets all of the requirements listed below.

- 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.
- Ensure there is an appropriate power source within the reach of the 8-foot standard power cable.
- 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.

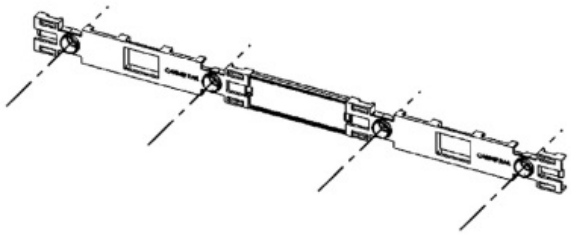
- Scheduled maintenance should be carried out on the dispenser at least once per year.
- A locally approved back-flow prevention device – not provided – may be required for safe and legal operation. Hydro Systems offers an approved back-flow prevention device as an option, if one is needed (part number HYD105).

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.

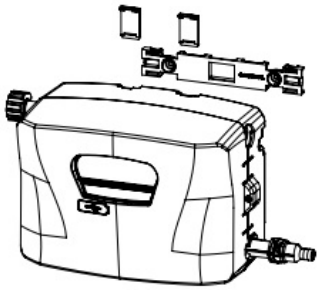


4 or 6 product: 1 bracket

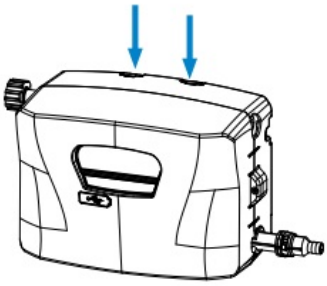


8-product: 2 brackets and joiner

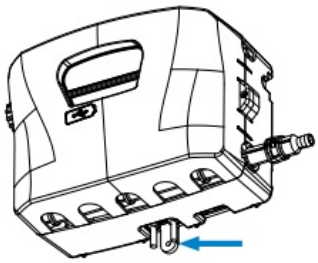
2. Wall anchors are provided, please ensure they are appropriate to the wall/surface being mounted to.
3. Mount the dispenser onto the mounting bracket. Push down the clips to secure the unit.



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 they do not create a hazard for the operator.

Incoming Water Supply

WARNING! Ensure the incoming water supply hose is supported to prevent unnecessary stress on the inlet fitting.

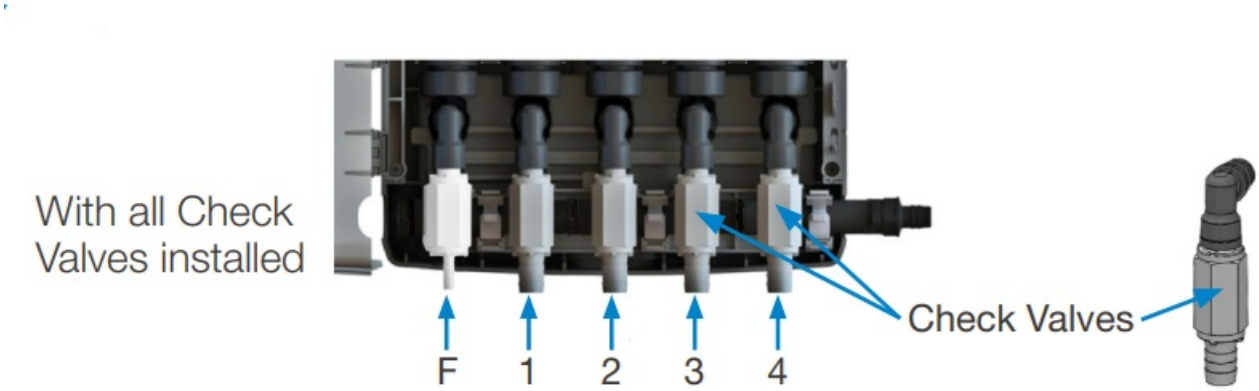
1. Connect incoming water supply using fittings provided. This will either be a 3/4'' female Garden Hose fitting, or a 1/2" O.D. push-fit connector.
2. A locally approved back-flow prevention device – not provided – may be required for safe and legal operation. Hydro Systems offers an approved back-flow prevention device as an option, if one is needed (part number HYD105).

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.

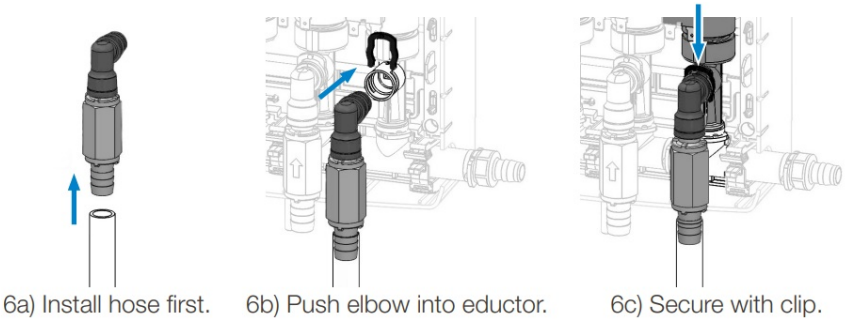
Route Discharge Hose to Machine

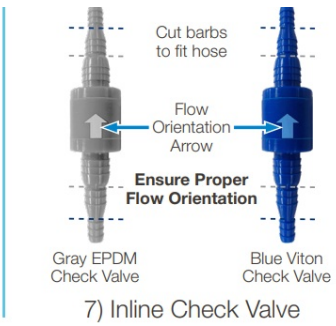
1. Connect outlet (see above) to the washing machine using 1/2” ID flexible braided PVC hose.
2. Secure PVC hose to barb with a hose clamp.2.O5

Routing Pickup Tubes



1. Open cabinet.
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
4. Measure the distance of the hose route to be used, from the eductor to the base of the respective chemical container.
5. Cut the 3/8” ID flexible PVC Hose tube to that length. (Alternative check valve and hose options are available. Contact Hydro Systems for further information.)
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) Inline Check Valve

7. Install the in-line check valves between the dispenser and chemical container, as close to the container as possible. They must be installed in a vertical orientation not at an angle or horizontally; and the flow must match the orientation arrow on the valve body Cut barbs to the largest size compatible with the chemical

intake tubing.NOTE: Gray check valves have an EPDM seal and must be used with alkaline products only. Blue check valves have a Viton seal and should be used for all other chemicals.

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

WARNING! Do not attempt to “tee” chemical intake hoses to feed multiple eductors or dispensers! Loss of prime or insufficient chemical feed may result. Always run an individual intake hose to the chemical container.

Power Connection

1. Install the Total Eclipse controller and the Machine Interface using the separate instruction sheets for those products.
2. Connect the EvoClean dispenser to the Total Eclipse controller via the pre-wired J1 cable coming from the dispenser.
3. Connect the EvoClean’s power cord to an appropriate supply providing 110V to 240V AC at 50-60 Hz up 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.

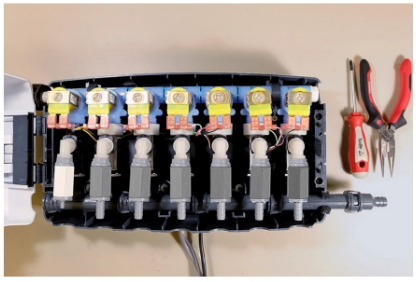
maintenance

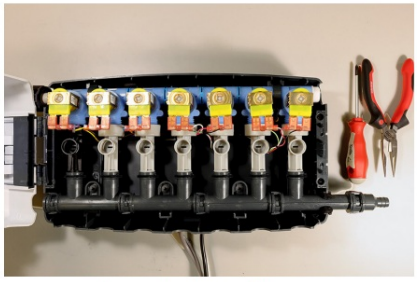
Preparation

1. Unplug the 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. Use a Phillips head screwdriver to loosen the screw and open the front cover of the enclosure.
4. Disconnect the check valves from the eductors (see step 6 in section 2.0.5 on the previous page) and drain chemical lines back into their containers.

NOTE: If you going to remove any solenoid valves, use a 3/8” Allen wrench inside the water inlet swivel stem to remove it
from the upper manifold. This will allow you to lift the upper manifold later without interference with the cover.

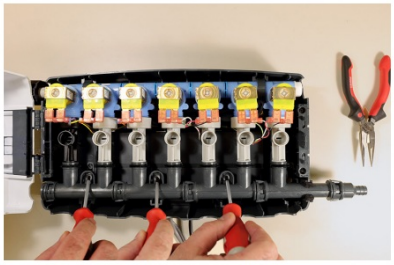
6-product EvoClean
with tools for maintenance


6-product EvoClean
with front cover open

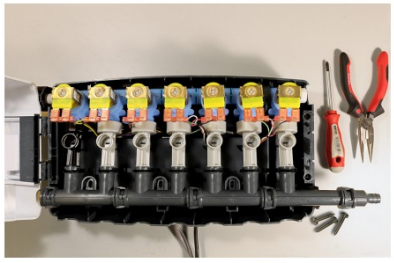

6-product EvoClean -
Prepared for maintenance

Maintenance for Lower Manifold, Eductor or Solenoid

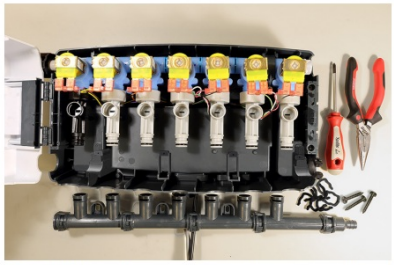
1. Perform 3.01 Preparation, then remove the Phillips screws holding the lower manifold in the cabinet, as shown below.
2. Pivot the manifold assembly upward around the upper manifold, to give some clearance for disconnecting the lower manifold. (If the manifold is difficult to turn upward, slightly loosen the two upper manifold clamp screws
3. Pull off the clips holding the lower manifold to the eductors and remove the lower manifold
4. **NOTE:** With APAC units, ensure the ball and spring of the non-return valves are properly retained in the lower manifold.



1) Remove lower manifold screws



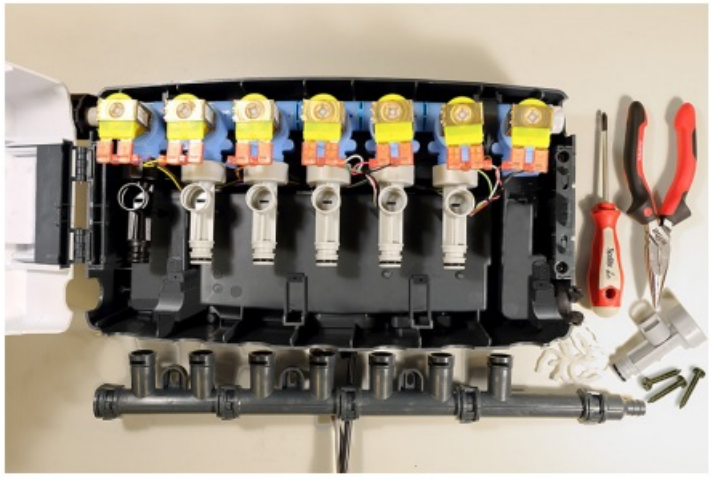
2) Lift lower manifold



3) Pull the clips, remove lower manifold

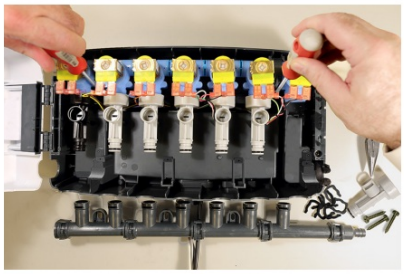
(continued)

5. Inspect the manifold, it's 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 15 to begin reassembly.)
6. Unscrew the eductor from the upper manifold and remove it as shown to the right. 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 14 to begin reassembly.)



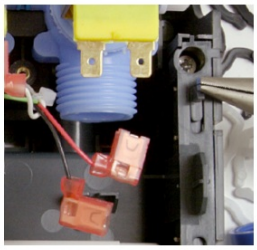
4) Unscrew eductor and inspect

7. Unscrew the screws holding the two half-circle clamps that secure the upper manifold.
8. Rotate the upper manifold clamps back, out of the way.
9. Use pliers to carefully unplug the solenoid electrical connections. (CAUTION! Keep a careful record of what color wires you disconnect from each solenoid connector, so when you need to reconnect them in post-maintenance reassembly you will be 100% sure which color wire goes where. Perhaps taking cell-phone photos would be a good way to keep track.)
10. Lift the upper manifold to provide clearance to unscrew solenoid. (Notice water inlet swivel fitting has been removed.)

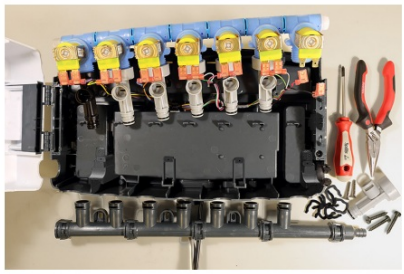


6) Remove upper manifold screws

7) Rotate clamps up

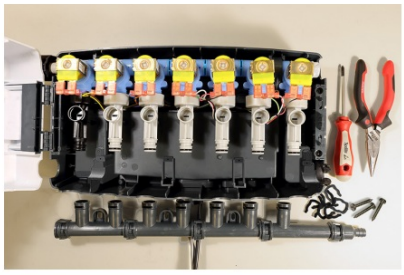


8) Unplug solenoid electrical connections

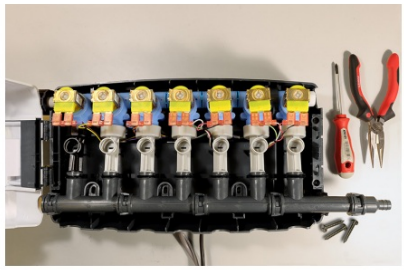


9) Lift manifold to provide clearance

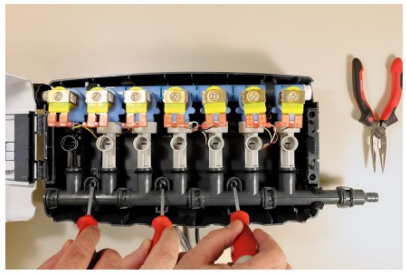
11. Unscrew the solenoid from the upper manifold and remove it. Inspect Solenoid and O-ring. Repair or replace as needed.(Note: Eductor 6 is used in this example. Other positions may require multiple eductor and solenoid removal.
12. Screw on the new replacement or existing solenoid. Tighten enough to prevent leaks and to orient outlet downward.
13. Lower the upper manifold back into position, secure with half-circle clamps (which can be pushed forward from the back of the cabinet if they are hard to grasp from the front) and reconnect the solenoid electrical connections.



14) Attach new or existing eductor

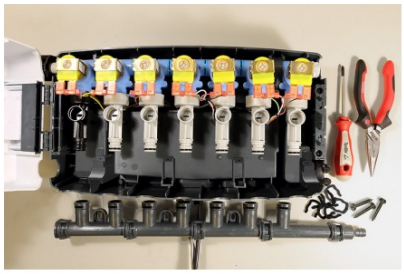


15) Attach lower manifold to eductors

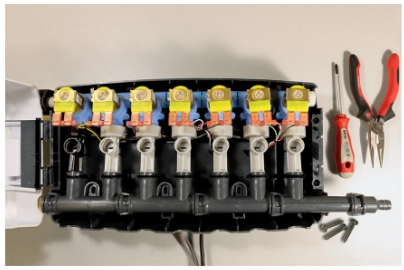


16) Secure lower manifold

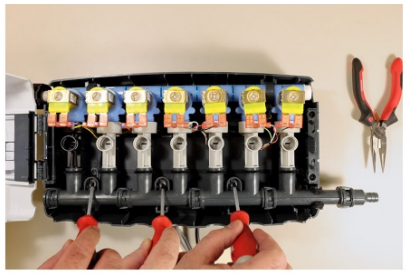
14. Screw on the new replacement or existing eductor. Tighten enough to prevent leaks and to orient intake outward.
15. 15) Reattach the lower manifold, pushing it onto the eductors, and secure the manifold to the eductors using the clips.(Note: With APAC units, ensure the ball and spring non-return valves are properly seated in the lower manifold before reassembly.)
16. Secure the lower manifold to the back cover with the screws you removed earlier.
17. **(Note:** If you loosened the upper manifold screws, and have not tightened them yet, tighten them now.)



14) Attach new or existing eductor



15) Attach lower manifold to eductors



16) Secure lower manifold

Return Dispenser to Service

1. Returning Dispenser to Service: (Not shown)
    1. Reconnect and secure the flush and chemical intake check valves to the dispenser. (See Step 6 in Section 2.0.5.)
    2. If you removed it for solenoid maintenance, reconnect the water inlet swivel stem with a 3/8” Allen wrench.

3. . Reconnect the water inlet and outlet tubing and turn on the incoming water supply. Check for leaks.
4. Reconnect the power cord to an appropriate supply providing 110V to 240V AC at 50-60 Hz up to 0.8 Amps.
5. Follow the procedure in the Total Eclipse controller menu for priming the chemical pickup lines. Check for leaks again.

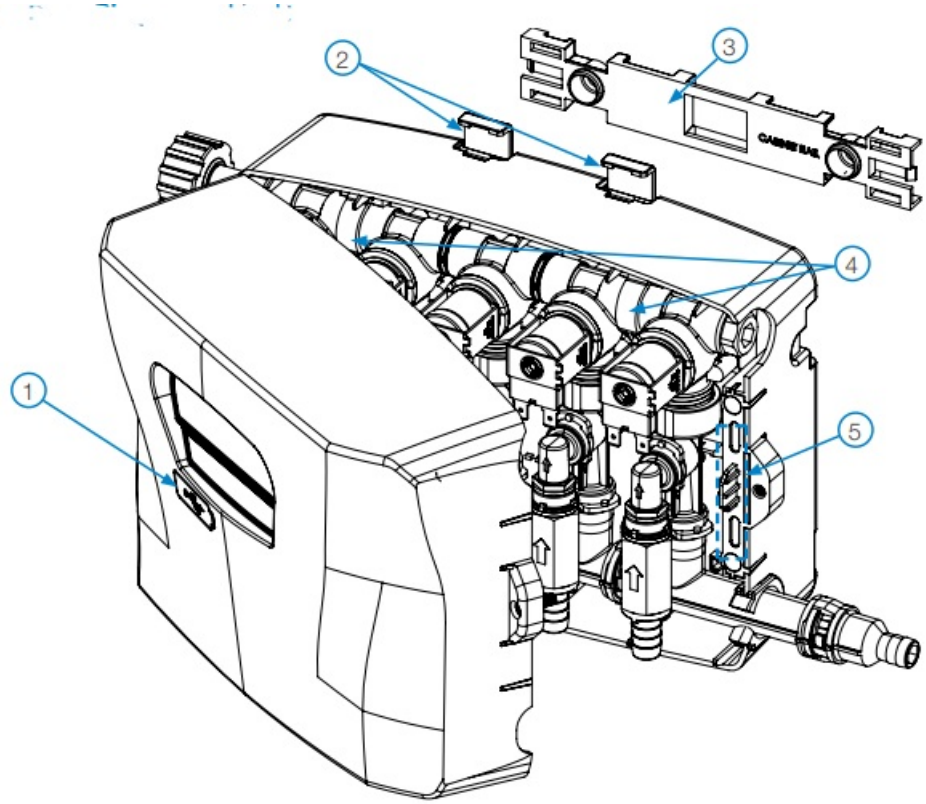
troubleshooting

Problem	Cause	Solution
1. Dead Total Eclipse controller dis play	a. No power from source.	• Check for power at source. • Check the J1 cable connection at the controller. For NA units only: • Ensure the wall power transformer is delivering 24 VDC.
	b. Defective PI PCB, J1 cable or controller.	• Check operation of each component, replace as needed.
2. No flow of water from the outlet of the dispenser upon receipt of sig nal or prime (for all products)	a. Water source is turned off.	• Restore water supply.
	b. Water inlet screen/filer is clog ged.	• Clean or replace water inlet screen/filt er.
	c. Defective PI PCB, J1 cable or controller.	• Check operation of each component, replace as needed.
3. No flow of water from the outlet of the dispenser upon receipt of sig nal or prime (for some but not all pr oducts)	a. Loose solenoid connection or failed solenoid.	• Check solenoid connections and voltage at solenoid.
	b. Defective J1 cable.	• Check J1 cable operation and replace as needed.
	c. Clogged eductor	• Check eductor and clean or replace a s needed,
4. No flow of water from the outlet of the dispenser upon receipt of sig nal (but products prime OK)	a. Product(s) not calibrated	• Calibrate products with TE controller as needed.
	b. No washer signal, or signal w ire is loose.	• Verify washer program and check sig nal wire connections.
	c. Damaged J2 cable.	• Check J2 cable operation and replace as needed.
	d. Defective Machine Interface (MI), J2 cable, or controller.	• Check operation of each component, replace as needed.

5. Not counting loads	a. “Count Pump” not running.	• Ensure the “Count Pump” is selected properly, has a pump amount and that i t is getting a signal to run.
6. Insufficient or incomplete draw o f chemical.	a. Insufficient water pressure.	• Check water inlet hoses for kinks or o bstructions, repair or replace as neede d. • Check water inlet screen for obstructi on, clean or replace as needed. • If the solutions above do not fix the iss ue, take measures to boost the water p ressure above 25 PSI.
	b. Clogged chemical check valv e.	• Replace the clogged check valve ass embly.
	c. Clogged eductor.	• Isolate the unit from the water supply, locate the troubled eductor, and replac e the eductor.
	d. Incorrect pick-up tubing instal lation.	• Check pickup tubing for kinks or loops . Ensure that the tubing is installed belo w the fluid level in the container.
7. Continuous flow of water while d ispenser is idle.	a. Debris in solenoid valve.	• Ensure inlet strainer is attached and r eplace affected solenoid.
	b. Defective PI PCB or J1 Cable .	• 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 ch eck valve.	• Replace failed valve(s) and check chemical compatibility.
	b. Air leak in system.	• Find and repair any air leaks in the sy stem.
9. Water or chemical leak	a. Chemical attack or damage t o a seal.	• Isolate the unit from the water supply, locate the exact source of the leak and replace any damaged seals and compo nents.
10. Incomplete delivery of chemical to the washer.	a. Insufficient flush time.	• Increase the flush time (rule of thumb is 1 second per ft).
	b. Kinked or damaged delivery t ubing.	• Remove any kinks and/or replace deli very tubing as needed.

W ARNING! 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!

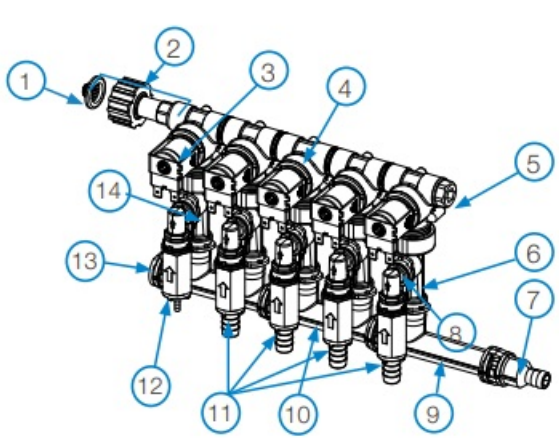
Exploded Parts Diagram (cabinet)



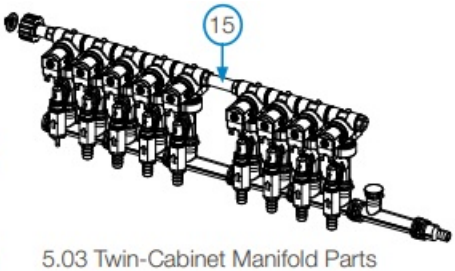
Service Part Numbers (cabinet)

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) The 4-product and 6-product models use 1 kit, while the 8-product model uses 2 kits.
5	HYD10099753	Kit, EvoClean Lock Mk2 (1)
Not Shown	HYD10098944	Front Cover Label Pack
Not Shown	HYD10099761	24VDC Power Supply Kit

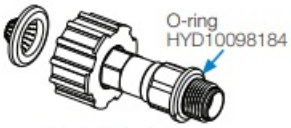
Exploded Parts Diagrams (manifold)



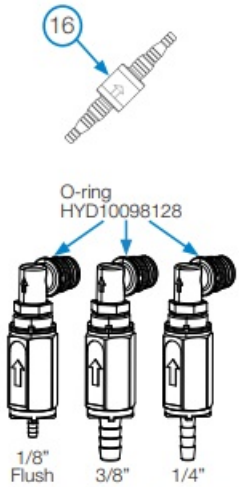
5.03 Manifold Parts



5.03 Twin-Cabinet Manifold Parts



Ref. 2 Detail



Ref. 12 & 11 Detail

Service Part Numbers (manifold)

Reference	Part #	Description available on request)
1	HYD238100	Strainer Washer
2	HYD10098177	3/4” Garden Hose Water Inlet Assembly (includes Strainer Washer)
	HYD90098379	3/4” British Standard Pipe (BSP) Water Inlet Assembly (includes Strainer Wash er)
	HYD10098184	EPDM O-ring, Size #16 (10 pack) – Not shown, used on Ref. 2, 3, 4, 5 and 15
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	Upper Manifold End Plug
6	HYD10098196	Low Flow Eductor – 1/2 GPM
	HYD10098195	High Flow Eductor – 1 GPM
	HYD10098128	Aflas O-ring, Size #14 (10 pack) – Not shown, used on Ref. 6, 11 and 12
7	HYD90099387	1/2” Hose Barb (standard)
	HYD90099388	3/8” Hose Barb (optional)
8	HYD10098185	EvoClean Clip – Kynar (10 Pack), used on Ref. 6, 11 and 12
9	HYD90099384	Single-port Manifold
	HYD10099081	Aflas O-ring, Size 14mm ID x 2mm (10 pack) – Not shown, used on Ref. 9, 10 a nd 14
10	HYD90099385	Double-port Manifold
11	HYD10098186	Eductor Check Valve and Elbow Assembly, 1/4” Barb (PVC, Aflas, Teflon, Haste lloy with Kynar Elbow)

	HYD10098187	Eductor Check Valve and Elbow Assembly, 3/8” Barb (PVC, Aflas, Teflon, Hastelloy with Kynar Elbow)
	HYD10098197	Eductor Check Valve and Elbow Assembly, 1/2” Barb (PVC, Aflas, Teflon, Hastelloy with Kynar Elbow)
12	HYD10098188	Flush Check Valve and Elbow Assembly, 1/8” Barb (NOT for chemical connection!)
13	HYD90099390	Lower Manifold End Plug
14	HYD10097801	Flush Eductor – 1 GPM
15	HYD10075904	Pipe Nipple
16	HYD10099557	Inline Check Valve Kit (**6**-pack: 4 Blue Viton / 2 Gray EPDM) for Chemical Intake Tube, 1/4”-3/8”-1/2” barbs
	HYD10099558	Inline Check Valve Kit (**8**-pack: 6 Blue Viton / 2 Gray EPDM) for Chemical Intake Tube, 1/4”-3/8”-1/2” barbs
	HYD10099559	Inline Check Valve Kit (**10**-pack: 8 Blue Viton / 2 Gray EPDM) for Chemical Intake Tube, 1/4”-3/8”-1/2” barbs

Service Part Numbers (manifold)

Reference	**Part #**	**Description**
Not Shown	HYD90099610	Footvalve Kit, Viton, with Screen, Blue, 4 valves, 1/4”-3/8”-1/2” barbs
Not Shown	HYD90099611	Footvalve Kit, Viton, with Screen, Blue, 6 valves, 1/4”-3/8”-1/2” barbs
Not Shown	HYD90099612	Footvalve Kit, Viton, with Screen, Blue, 8 valves, 1/4”-3/8”-1/2” barbs
Not Shown	HYD90099613	Footvalve Kit, EPDM, with Screen, Gray, 4 valves, 1/4”-3/8”-1/2” barbs
Not Shown	HYD90099614	Footvalve Kit, EPDM, with Screen, Gray, 6 valves, 1/4”-3/8”-1/2” barbs
Not Shown	HYD90099615	Footvalve Kit, EPDM, with Screen, Gray, 8 valves, 1/4”-3/8”-1/2” barbs
Not Shown	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	HYD90099599	Optional Kit, Non-Return Valve (NRV) – 4 Product **(Standard in APAC region only)**
Not Shown	HYD90099600	Optional Kit, Non-Return Valve (NRV) – 6 Product **(Standard in APAC region only)**
Not Shown	HYD90099597	Optional Kit, Non-Return Valve (NRV) – 8 Product **(Standard in APAC region only)**

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.

Documents / Resources

	HYDRO Systems EvoClean with Total Eclipse Controller [pdf] User Manual EvoClean with Total Eclipse Controller, EvoClean, Total Eclipse Controller, HYD10098182

References

- Chemical Dosing and Dispensing | Hydro Systems