

### Safety Precautions



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

**THANK YOU FOR YOUR INTEREST IN OUR PRODUCTS!**

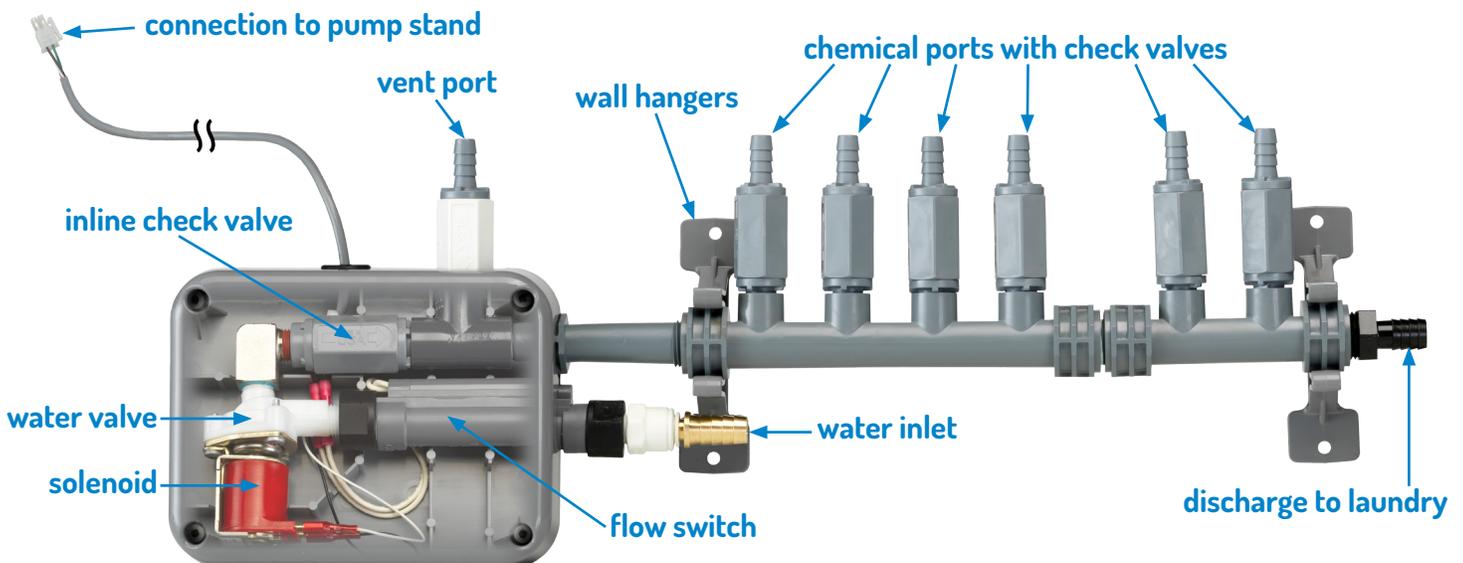
**TO AVOID SERIOUS PERSONAL INJURY AND PROPERTY DAMAGE:**

- 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. use a locally approved back-flow prevention device - not provided - as required for safe, legal operation.
- NEVER** mix incompatible chemicals that pose hazards.
- ATTACH** only to water tap outlets (25 PSI minimum, 85 PSI maximum and maximum water temperature 140° F). Operating outside of these parameters will void manufacturer's warranty.
- NOTE** It is recommended to flush with a dedicated COLD water supply only, when possible.

## introduction

### Package Contents

1. FM-800 Flush Manifold Assembly (With Brackets)
2. Hardware Kit
3. 3/8" Braided Tubing (A 2-foot Section for each Port)



# installation

## Overview

The FM-800 Flush Manifold is intended for use with our LM-100, LM 200, Electrolux SDS, and LL-6000 liquid laundry dispensing systems.

This Flush Manifold is a single unit that includes the water valve, manifold and integrated flow switch all in one convenient assembly. The Flush Manifold is designed to provide the easiest and most cost-effective means of flushing liquid laundry products.

The FM-800 Flush Manifold aids in safe delivery of liquid laundry chemical products from the dispensing system to the washer using water flow (or flush) via a single discharge tube. The dispenser pumps chemical products into the manifold via integrated check valves that keep unwanted liquids from entering the chemical line and also keep unwanted chemical from dripping into the water flow. The flush valve controls water flow through the manifold, which in turn transfers product to the washer. The flush valve may be controlled by our Standard Eclipse, Total Eclipse or Electrolux SDS Controller.

## Mounting the Flush Manifold

1. Position the FM-800 Flush Manifold on the wall near the dispenser pump stand with the water inlet and flush discharge fittings on the desired end.
2. Using a pencil, mark the location of all holes on the mounting brackets.
3. Drill the outlined holes with a 1/4" masonry bit and place a wall anchor, supplied, into each hole.
4. Secure the manifold assembly to the wall anchors with supplied screws.
5. Connect the cold water supply line to one of the supplied hose barb fittings (straight or 90°). Once connected, push the smooth end of the fitting into the press-to-fit connection on the FM-800.
6. Connect hose between the FM-800 discharge and the washing machine.
7. Avoid kinks and other restrictions in discharge tube. Dynamic manifold pressure that exceeds 30 PSI during operation can severely reduce pump and squeeze tube life. This condition may also cause excessive back pressure in the squeeze tubes resulting in potential dispensing equipment damage and/or personal safety risks.

**IMPORTANT NOTE:** Water inlet fitting size is 1/2" hose barb (1/2" ID hose). Flush outlet fitting size is 1/2" hose barb (1/2" ID hose). To connect other sizes or types of water inlet and/or flush outlet hoses, obtain fittings locally.

## Connecting the Pump Tubes

1. Connect one end of the 3/8" ID tubing supplied with the FM-800 to the pump tube hose barb with hose clamps or tie wraps to ensure a leak-free assembly.
2. Trim the 3/8" ID tubes to fit, but do not connect to the check valves yet.
3. Calibrate each pump using the calibration steps of the system controller, capturing product at the open ends of the braided tubing.
4. Now connect 3/8" ID tubing to the hose barbs on the check valves. Secure with hose clamps or tie wraps to ensure a leak-free assembly.
5. **Do Not Connect Any Chemical Line To The White Vent Check Valve!**

## Installing Hard Copper Plumbing

Always use an approved back-flow prevention device and water pressure regulator. Hose barb fittings can be removed and replaced with the appropriate fittings to accommodate copper tubing. Use RTV sealant on the plastic plumbing threads and DO NOT solder to fittings that are threaded into plastic.

# installation

## Electrical Power Connection to Pump Stand

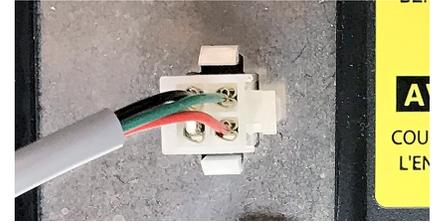
The Flush Manifold has an electrical power cable for the flush solenoid, with a connector that will fit any Hydro Systems' pump stand.

The standard FM 800 manifold when paired with the LM-100, LM 200, Electrolux SDS and LL-6000 systems utilizes 24VAC for the water solenoid valve.

**IMPORTANT NOTE:** To manually open the flush valve, to purge or clean water lines and manifold, use the Prime Pumps function of the controller. If no product delivery is desired, use an unused pump or temporarily remove the pump tube.

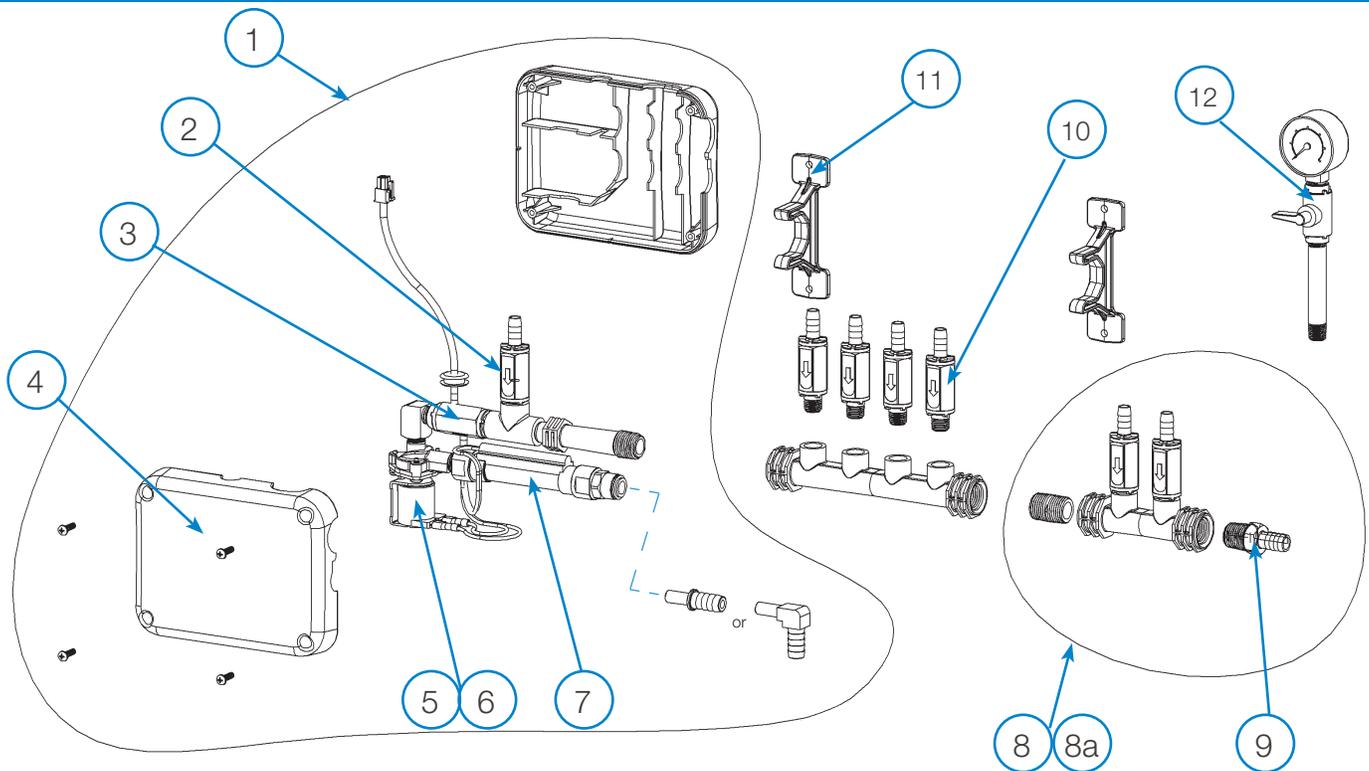


**WARNING!** DO NOT connect any voltage other than 24 VAC to the solenoid coil!



**Manifold Power Connection**

## parts diagram



| Key | Part No.    | Description   |
|-----|-------------|---|
| 1   | 00-03608-00 | Inlet Manifold Kit  |
| 2   | 41-04807-00 | Vent Port Check Valve, White                                    |
| 3   | 41-06508-44 | In-line Check Valve   |
| 4   | 10096138    | Cover Kit (with Screws)   |
| 5   | 15-03778-00 | Solenoid Valve Rebuild Kit                                      |
| 6   | 49-06472-10 | Solenoid Valve Replacement                                      |
| 7   | 10098690    | Flow Switch Replacement Kit (includes fitting and wire harness) |
| 8   | 00-03608-01 | 2 Port Add-On Kit (includes check valves and end fittings)      |
| 8a  | 00-03608-03 | 4 Port Add-On Kit (includes check valves and end fittings)      |
| 9   | 41-04996-01 | Discharge Barb  |
| 10  | 41-04207-46 | Chemical Port Check Valve                                       |
| 11  | 10096115    | Wall Hanger Kit (2 hangers w/ screws and anchors)               |
| 12  | 10098692    | Optional Pressure Gauge Kit                                     |

# troubleshooting and maintenance

| Problem  | Cause  | Solution   |
|--|--|--|
| 1. Pump will not run                                       |  | <p>There are various potential causes for this problem. Please follow the steps below to diagnose and address the problem:</p> <ol style="list-style-type: none"><li>Is water supply on? If not, turn on water supply. If yes continue to step b.</li><li>Disconnect flush manifold wire harness from the pump stand and install the flush jumper that came with the pump stand.</li><li>Using the prime pump function of the controller, run one of the pumps.</li><li>If the pump runs, go to step e. If pump does not run, STOP troubleshooting, call Hydro Systems Technical Support for help.</li><li>Measure your water flow by following the steps below:<ol style="list-style-type: none"><li>Turn off the incoming water supply.</li><li>Disconnect the brass water inlet fitting from the push-fit connector on the flow switch</li><li>Get an empty one gallon container.</li><li>Turn on water supply.</li><li>Capture the incoming water flow with the one gallon container and time how long it takes to fill the one gallon container.</li><li>If it fills in one minute or less, so your flow rate is at least 1 gallon per minute, proceed to step f.</li><li>If the incoming water flow is less than 1 gallon per minute, STOP and check your water supply.<br/>(Water supply flow must be at least 1 gallon per minute for the Flush Manifold's flow switch to activate.)</li></ol></li><li>Reconnect the brass water inlet and supply hose to the push-fit connector on the Flush Manifold.</li><li>Reconnect the flush manifold wire harness to the pump stand.</li><li>Check that discharge hose to the washer is free of kinks.</li><li>Disconnect discharge hose at the washing machine inlet.</li><li>Aim discharge hose to floor drain and activate a pump using the prime feature.<br/>If the pump runs, there is blockage at inlet fitting. If pump does not run proceed to step k.</li><li>Turn on a pump with the prime function and collect the fluid coming out the discharge hose in a one gallon container.<br/>If the output is less 1 gallon per minute, proceed to step l. If the output is 1 gallon per minute or more, call Hydro Systems Technical Support for assistance.</li><li>Activate a pump with the prime function and check voltage at the coil of the Flush Manifold solenoid valve.<br/>If you measure 24 Volts AC and there is no flow at the manifold outlet, replace the solenoid valve.<br/>If you do not measure 24 VAC on the coil of the solenoid with a pump active, call Hydro Systems Technical Support for help.</li></ol> |
| 2. Water in chemical line, between pump and flush manifold | a. Chemical check valve defective or clogged | Replace check valve.   |
| 3. Water drips/runs into the washer at all times           | a. Defective solenoid valve                  | Rebuild or replace the solenoid valve.   |
| 4. Water leaks out of vent check valve                     | a. Defective or clogged vent check valve     | A small amount of water may periodically leak from the vent check valve in normal operation. You can attach a short length of tubing to the barb to capture the fluid. If you still see a significant amount of water exiting the vent and tubing, the check valve has probably failed. Replace the vent check valve.  |



**WARNING!** Under no circumstances should the flow switch be by-passed by jumping wires. The flow switch is a safety feature that if by-passed will void the warranty of the Flush Manifold and Hydro Systems will not assume any responsibility for the mixing of chemicals in the manifold!

## 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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