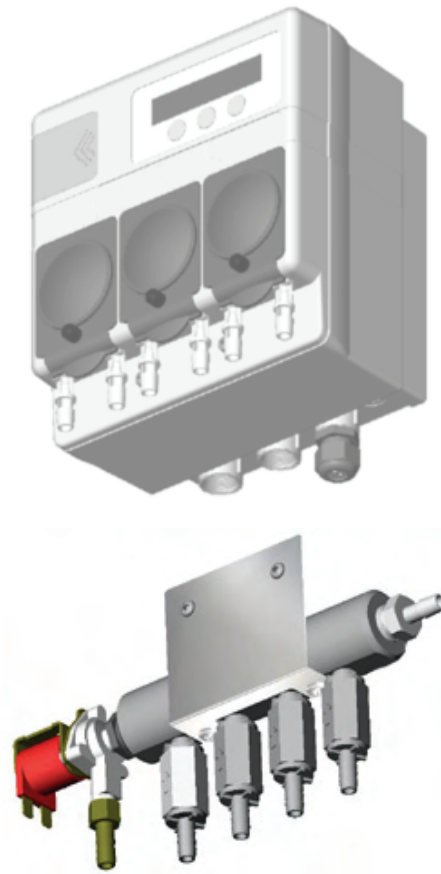




FLUSH MANIFOLD

FOR LIQUID LAUNDRY SUPPLY SYSTEMS



Reference Manual


FM-700 Series

1 Description

Overview

The FM-700 series Flush Manifold is intended for use with the LM-700 series liquid laundry dispensing systems.

The FM-700 series Flush Manifold is a single unit that includes the water valve and manifold all in one convenient assembly. This unit is designed to provide the easiest and most cost effective means of flushing liquid laundry products when used with an LM-700 dispensing system.

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| Warning  | The flush manifold is not equipped with a flow switch. Do not run bleach and sour into the same manifold. Either feed one of these products directly to the washer or use a separate manifold |
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Theory of Operation

The Flush Manifold transfers liquid laundry products from the dispenser to the washer using water flow (or “flush”) via a single discharge tube. The dispenser pumps into the manifold via the check valves. The flush valve controls water flow through the manifold, which in turn transfers product to the washer.


To enable flush manifold operation, the Flush Time (“FLu”) must be programmed for a number between 1-999 seconds. A Flush Time of zero seconds (000) disables flush manifold operation.

With flush manifold operation enabled, only one product is dispensed at a time. When a product is scheduled to be dispensed (or triggered) during the time in which the liquid laundry dispenser is *already* dispensing a product, the next scheduled products are placed in a queue. The dispenser maintains a first-in / first-out memory, which assures that products are dispensed in the order in which they were placed in the queue. In the event that more than one pump is programmed to begin dispensing at the same exact time, the lowest number pump (the pump on the left) will operate first, and the highest number pump will operate last.

Dispensing Sequence

Each time a product is triggered, or otherwise scheduled to be dispensed, the following sequence occurs:

1. **Pre-flush period**
During the pre-flush period, the Flush Manifold solenoid turns ON, and the pump remains OFF, for three seconds.
2. **Dispensing period**
After the pre-flush period, dispensing begins and continues for the amount of time programmed for that pump. During the dispensing period, the Flush Manifold solenoid remains ON.
3. **Post-flush period**
When product dispensing is complete for all requests in the queue, the post-flush period begins. During the post-flush period, the Flush Manifold solenoid remains ON for the number of seconds that have been programmed in Flush Time “FLu.”

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| Note  | The post-flush period does not occur if there are other products in the queue waiting to be dispensed. Instead, a three second pre-flush period occurs which is followed by dispensing of the next product. This sequence reoccurs until all scheduled products in the queue have been dispensed. |
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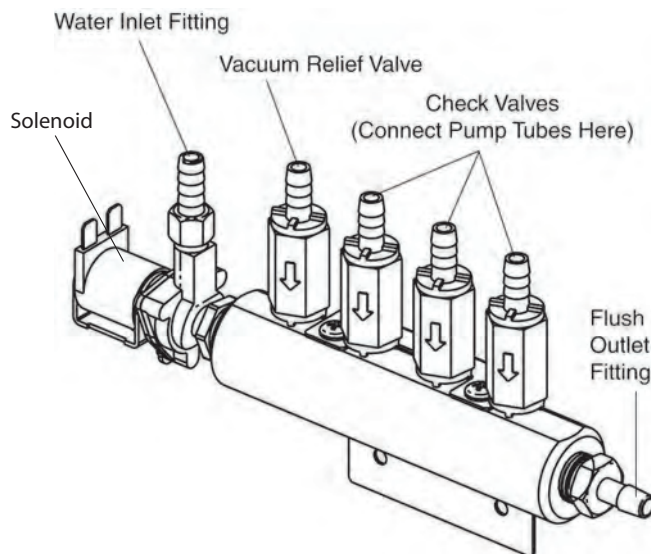


Figure 1-1 Flush Manifold System Diagram



Flush Manifold Typical Installation

2 Installation

Overview


The Flush Manifold is designed to be installed directly on the LM-700 liquid laundry dispensing system. Electrical installation simply requires connecting a plug connector to the inside of the dispenser and routing the cable out through the bottom.

Parts Not Included


- **Back-flow Prevention Device**
A locally approved back-flow prevention device may be required for safe and legal operation.
- **Water Pressure Regulator**
A water pressure regulator may be required to limit flow pressure in the flush manifold to 10 psi at flow. This regulator may be shared by a number of flush manifolds
- **Flush Discharge Hose**
The flush discharge hose **MUST NOT** exceed 50 feet (15.24 m) in length.

Electro-Mechanical Installation

The Flush Manifold has a single electrical connector specifically designed to connect to LM-700 liquid laundry dispensing systems.

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| Warning  | DO NOT connect any voltage other than 24 DC to the solenoid coil. |
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1. Remove the two cabinet screws from the front enclosure of the dispenser. With the screws removed, tilt the front enclosure upward as if it was hinged along the top of the cabinet.
2. Remove the lower partition by tilting it outward, from the top.
3. Pass the solenoid wires through the right liquid tight conduit fitting (located in the bottom of the dispenser). Refer to *Figure 2-1 on page 4*.
4. Install the flush harness (attach connector to interconnect board). Follow wiring label inside housing for correct wire connections.
5. Replace the lower partition and the front cover of the dispenser.
6. Secure the Manifold assembly to the cabinet using the same screws.
7. Connect the flush harness leads to the solenoid.
8. Connect water inlet and flush outlet hoses.

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| Note  | Water inlet fitting size is 3/8" (10 mm) hose barb (3/8" [10 mm] ID hose). Flush outlet fitting size is 3/8". (10 mm) hose barb (3/8" [10 mm] ID hose). To connect other size/type water inlet and/or flush outlet hoses, obtain fittings locally. |
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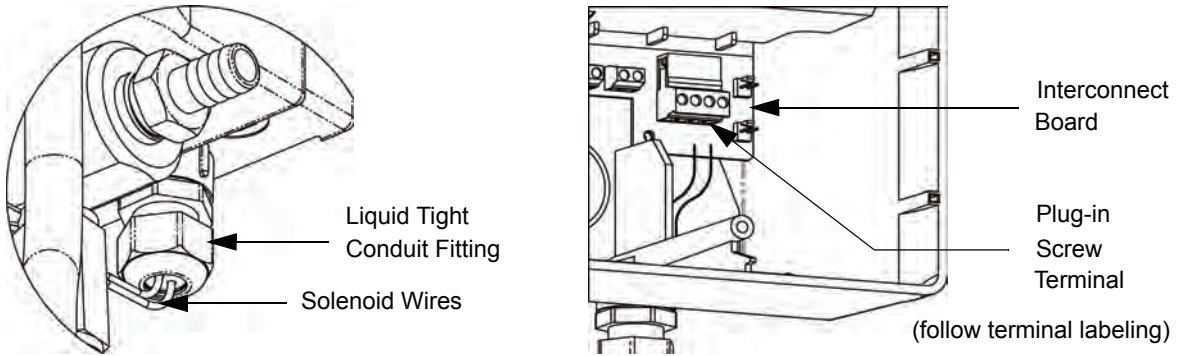



Figure 2-1 Liquid Tight Conduit Fitting and Harness Installation

Transport Tube Connection

Install the Transport Tubes (provided in accessory kit) on the discharge (right) side of pump. Trim to fit, if required. Connect to Flush Manifold check valve hose barbs. Use tie wraps to secure at check valve.

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| Note  | <p>When ordering replacement transport tubes for FM-700 series dispensers with flush manifolds, be sure to specify the tube length: 03-07527-01 for Braided PVC, 1' 03-07527-02 for Braided PVC, 2'</p> |
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Hard Copper Plumbing


If the water supply connection must be copper tubing (hot water), you will be responsible for the correct pipe fittings and connectors to complete the installation. 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.

System Setup

The Flush Manifold installation and setup must be complete prior to programming the dispenser. Refer to the Program Mode chapter of your dispenser’s reference manual to find specific instructions for programming Flush Time “FLu.”

Procedures

1. Check entire dispensing system for correct electrical and plumbing connections.
2. After pump calibration and formula programming, test run the system to determine appropriate flush time setting to transfer all product to the washer. Program this Flush Time in dispenser.
3. Confirm that the washer calls for product and pumps run at appropriate times.
4. Flush system pressures should be measured while flushing, if possible. Adjust the water pressure regulator, if installed, for no more than a 10 psi reading while flushing.
5. Inspect flush system for water leaks and test run a load of linen.

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| Note  | <p>To manually open flush valve or to purge or clean water lines and manifold, use the Prime Pumps function of the Dispenser. If no product delivery is required, use an unused pump position or temporarily remove the pump tube.</p> |
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3 Spare Parts Listing

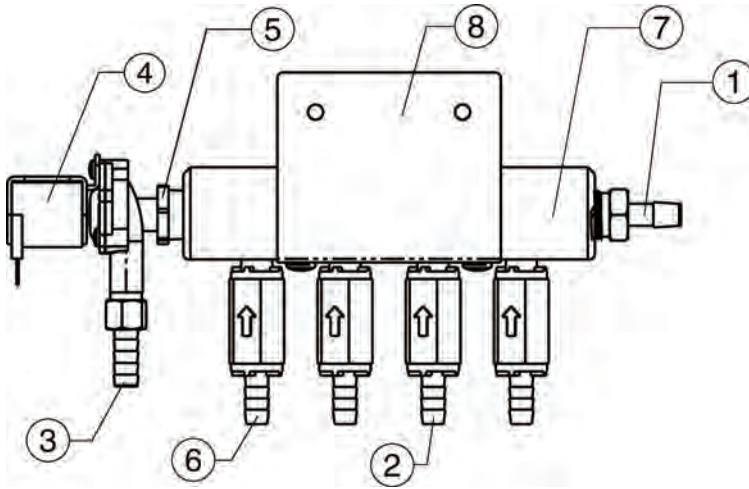


Figure 3-1 Spare Parts

Table 3-1 Spare Parts Description and Part Number

| Ref. # | Description | Part Number |
|--------|---|--------------|
| 1 | Flush Outlet Fitting, 1/2" MPT x 3/8" Barb | 41-07544-00 |
| 2 | Check Valve, 3/8" Barb x 1/4" MPT | 41-04207-46 |
| 3 | Water Inlet Fitting, 1/4" FPT x 3/8" Barb | 41-07528-46 |
| 4 | Solenoid Valve, 24 VDC | 49-06472-01 |
| 5 | Reducer, 1/2" MPT x 1/4" FPT | 41-03965-072 |
| 6 | Vacuum Release Valve (white) | 41-04807-00 |
| 7 | Manifold, blank, no parts | 27-07525-00 |
| 8 | Mounting Plate, Unit Mount | 23-07559-00 |
| * | Hole Plug (for empty Check Valve Positions) | 41-04468-00 |

* denotes item(s) not shown

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| Note | For replacement Transport Tubes, please see <i>"Transport Tube Connection"</i> on page 4 to obtain part numbers. |
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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.

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