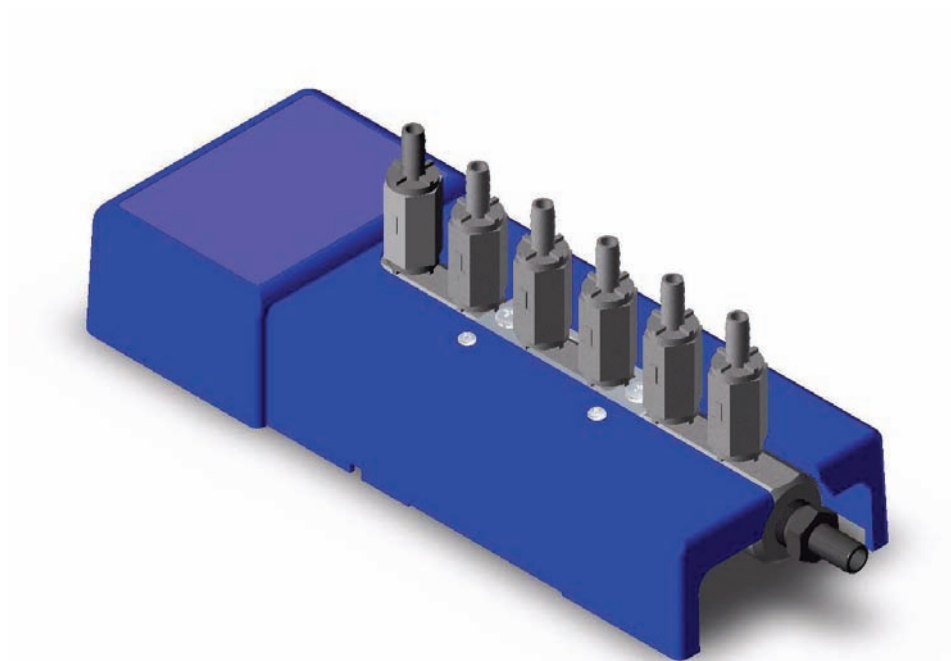




NOVA CONTROLS
LEADING THE WAY
A **Hydro** Systems Company

Flush Manifold A/P

FOR LIQUID LAUNDRY SUPPLY SYSTEMS



Reference Manual

FM-200 Series

1

Description

The FM-200 series Flush Manifold is intended for use with our LM-4000 series liquid laundry dispensing systems.

The FM-200 series Flush Manifold is a single unit that includes the water valve, manifold, and flow switch all in one convenient assembly. The FM-200 series Flush Manifold is designed to provide the easiest and most cost effective means of flushing liquid laundry products when used with an LM-4000 series dispensing system.

Theory of Operation

The FM-200 series Flush Manifold transfers 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 the check valves. 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 LM-4000 series Dispenser Controller.

Specifications

Maximum Discharge Tube Length: 50 feet (15.25 meters)

Minimum Input Water Pressure: 12 psi

Maximum Input Water Pressure: 20 psi

Minimum Water Flow Rate: 0.65 gpm

Minimum Input Water Temperature: 50° F (10° C)

Maximum Input Water Temperature: 120° F (48.9° C)

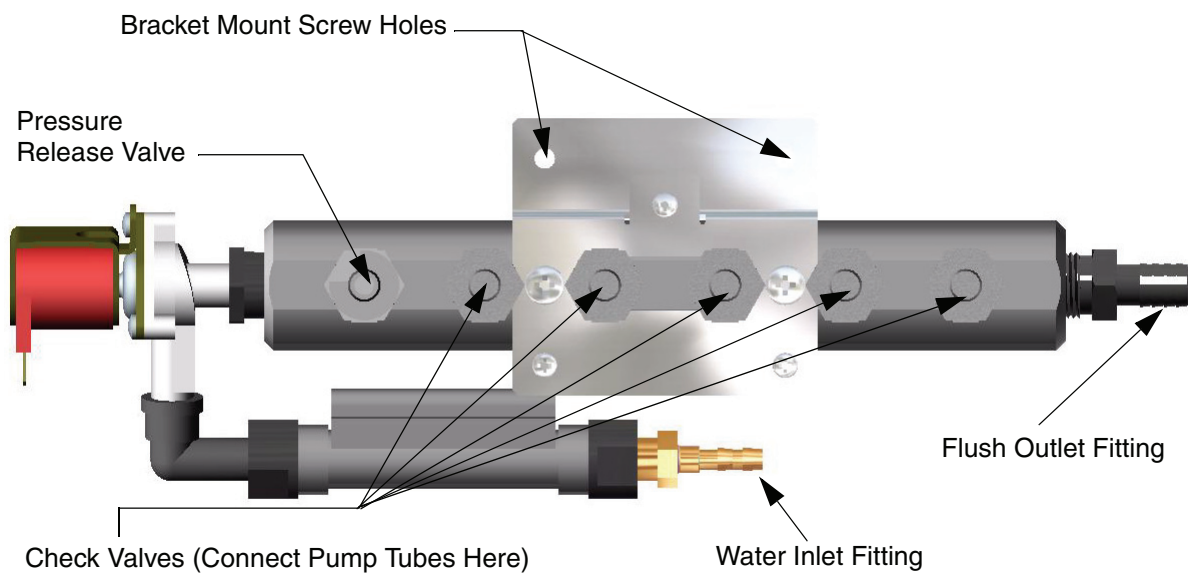



Figure 1 Flush Manifold

Installation & Setup

The FM-200 is designed to be installed directly below the LM-4000 dispensing system Pumpstand. Electrical installation simply requires connecting a plug connector to the underside of the LM-4000 Pumpstand.


Caution 	<p>A locally approved back-flow prevention device—not provided—is required for safe and legal operation.</p> <p>A water pressure regulator is required to limit flow pressure to the flush manifold to 12-15 psi at flow (.65 gpm minimum flow rate). This regulator may be shared by a number of flush manifolds.</p> <p>It is important that the flush discharge hose DOES NOT exceed 50' (15.25 meters).</p>
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Mechanical Installation

1. Install FM-200 on the Pumpstand bracket and secure with supplied hardware.
2. Connect water inlet and flush outlet hoses.

Optional Wall Mounting

1. Position the FM-200 on the wall below the dispenser Pumpstand with the water inlet and flush discharge fittings on desired end.
2. Using a pencil, outline each of the two mounting holes on the FM-200.
3. Drill 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. Drop strainer into hose connection and connect hose to spigot.
6. Connect flush outlet hoses.

Note 	<p>Water inlet fitting size is 3/8" barb fitting (3/8" ID hose). To connect other size/type water inlet and/or flush outlet hoses, obtain fittings locally.</p>
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Pump Tube Connection


Use the longer Pump Tubes provided in the accessory kit. Install these longer tubes with the excess on the discharge (right) side of the pump. Trim to fit, and connect to FM-200 check valve hose barbs. Use tie wraps to secure at check valve.

Hard Copper Plumbing

If the water supply connection must be copper tubing, you must obtain the correct pipe fittings and connectors to complete the installation locally. 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.

Electrical Connection

The FM-200 series flush manifold has a single electrical connector specifically designed to connect to the LM-4000 series Pumpstand.

Caution 	DO NOT connect any voltage other than 24 VAC to the solenoid coil!
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Depress locking tab on LM-4000 Pumpstand shorting connector (connected to flush connector on non-flush units) and remove. Retain for reuse in case the Pumpstand is used without flush in the future. Connect the FM-200 connector to the Pumpstand flush connector.



Figure 2 Pumpstand Flush Connector

System Setup

Check entire dispensing system for correct electrical and plumbing connections. After pump calibration and formula programming, test run the system to determine appropriate flush time setting to transfer all product to the washer. Input this flush time in program mode of the Controller. Also, reconfirm that the washer calls for product at appropriate times and the dispensing system pumps when it should. Flush manifold water inlet pressures should be measured while flushing. Adjust the water pressure regulator for an inlet pressure of 12-15 psi (.65 gpm minimum flow). Inspect flush system for water leaks, and test run a load of linen.

Note 	To manually open flush valve, to purge or clean water lines and manifold, use the Prime Pumps function of the Dispenser Controller. If no product delivery is required, use an unused pump position or temporarily remove the pump tube while doing this.
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3 Spare Parts

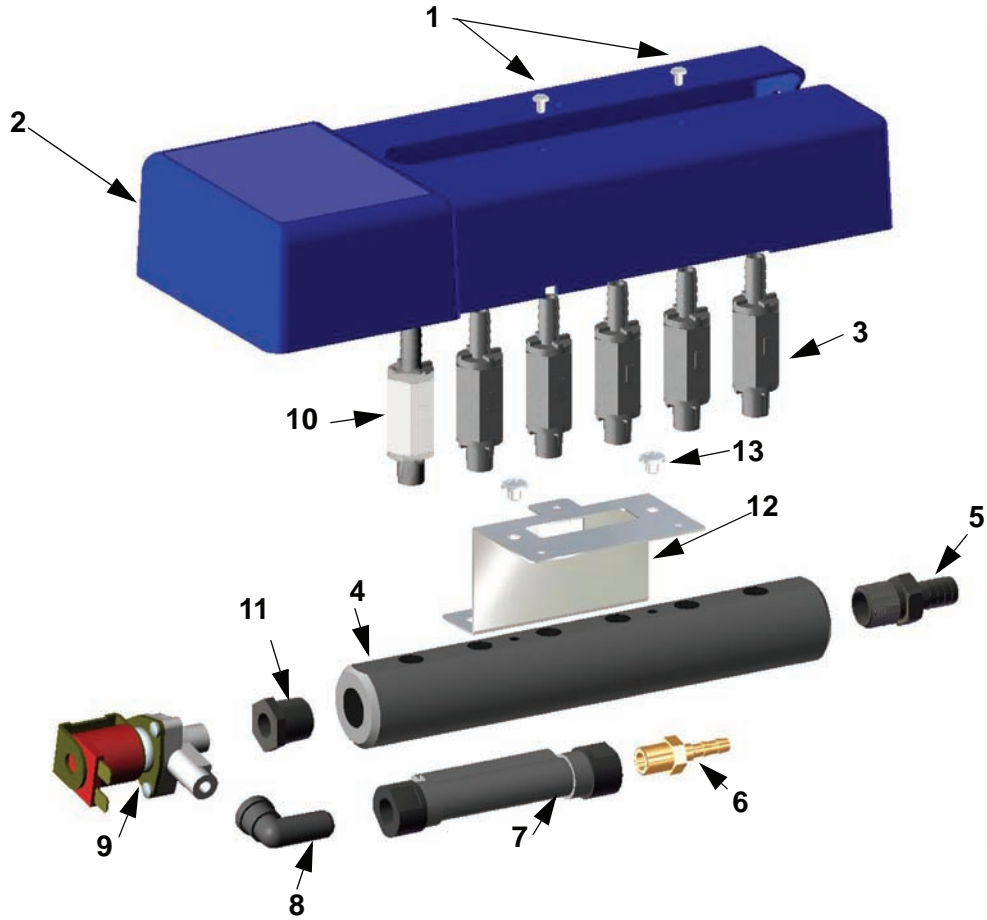


Figure 3 Spare Parts

Table 3 Spare Parts Listing

Ref. #	Description	Part Number
1	Cover Screws	30-03123-0806A
2	Cover	37-06539-01
3	Check Valve 3/8" Barb	41-04207-46
4	Manifold, blank, no parts	46-07525-02
5	Outlet Fitting, 1/2" MPT x 1/2" Barb	41-04996-01
6	Inlet Fitting, 1/4" MPT x 1/4" Barb	41-06473-44
*	Inlet Fitting, 1/4" MPT x 3/8" Barb (OEM)	41-06473-46
*	Inlet Fitting, 1/4" MPT x 1/2" Barb	41-06473-84
*	Inlet Fitting, 1/4" MPT x 1/4" Tube (Compression Nut)	41-07017-44
7	Flow Switch Kit, includes fittings and wiring harness	13-06592-00
8	Elbow, 1/4" FPT	41-06924-44
9	Solenoid Valve, 24 VAC Coil (coil not replaceable) (no strainer)	49-06472-10
10	Release Valve, 1/3 psi (white)	41-04807-00
11	Reducer Bushing	41-03965-072
12	Mounting Bracket	23-07754-00
13	Bracket Screws	30-03123-2504
*	Strainer Kit (with washer), 70 mesh, 10 pk.	13-08480-10

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, lightening, 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 Watsonville, California any Products found to be other than as warranted.

Limitation of Liability

SELLER'S WARRANTY OBLIGATIONS AND BUYERS REMEDIES ARE SOLELY AND EXCLUSIVELY AS STATED HERE IN. 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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