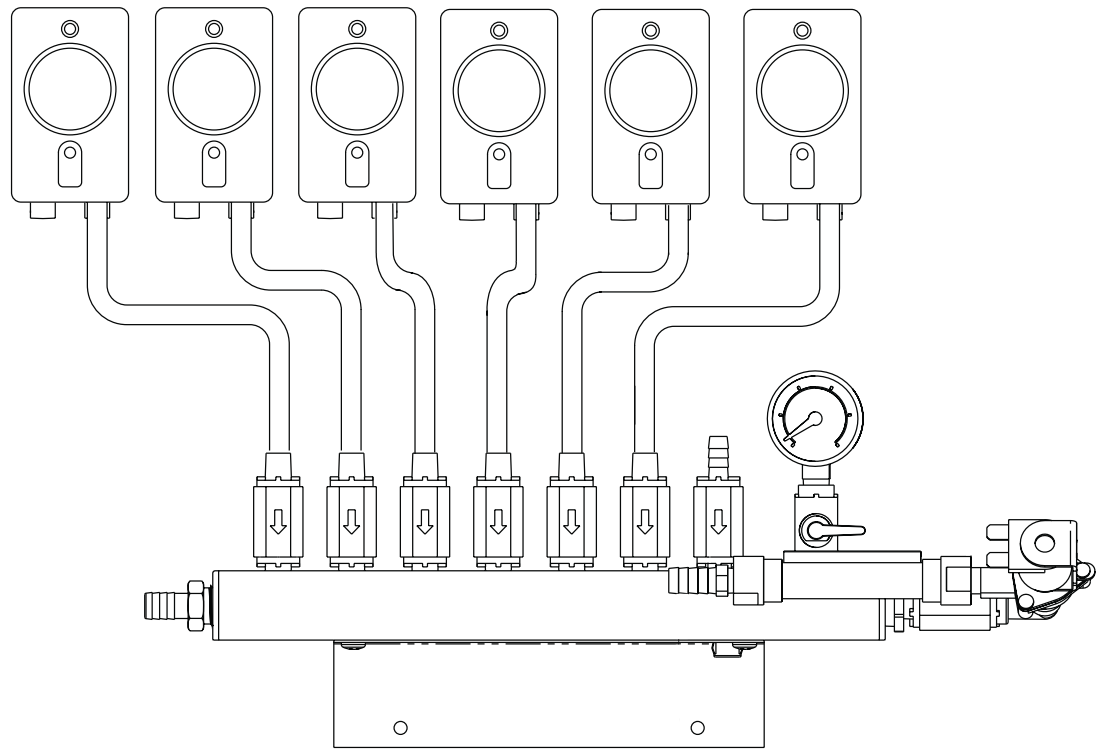


NOVA CONTROLS
LEADING THE WAY
A Hydro Systems Company

FLUSH MANIFOLD

FOR LIQUID LAUNDRY SUPPLY SYSTEMS



REFERENCE MANUAL

FM-200 Series with Pressure Gauge

1.0 DESCRIPTION

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

The FM-200 series Flush Manifold is a single unit that includes the water valve, manifold, and optional 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 Eclipse LM-200 series dispensing system.

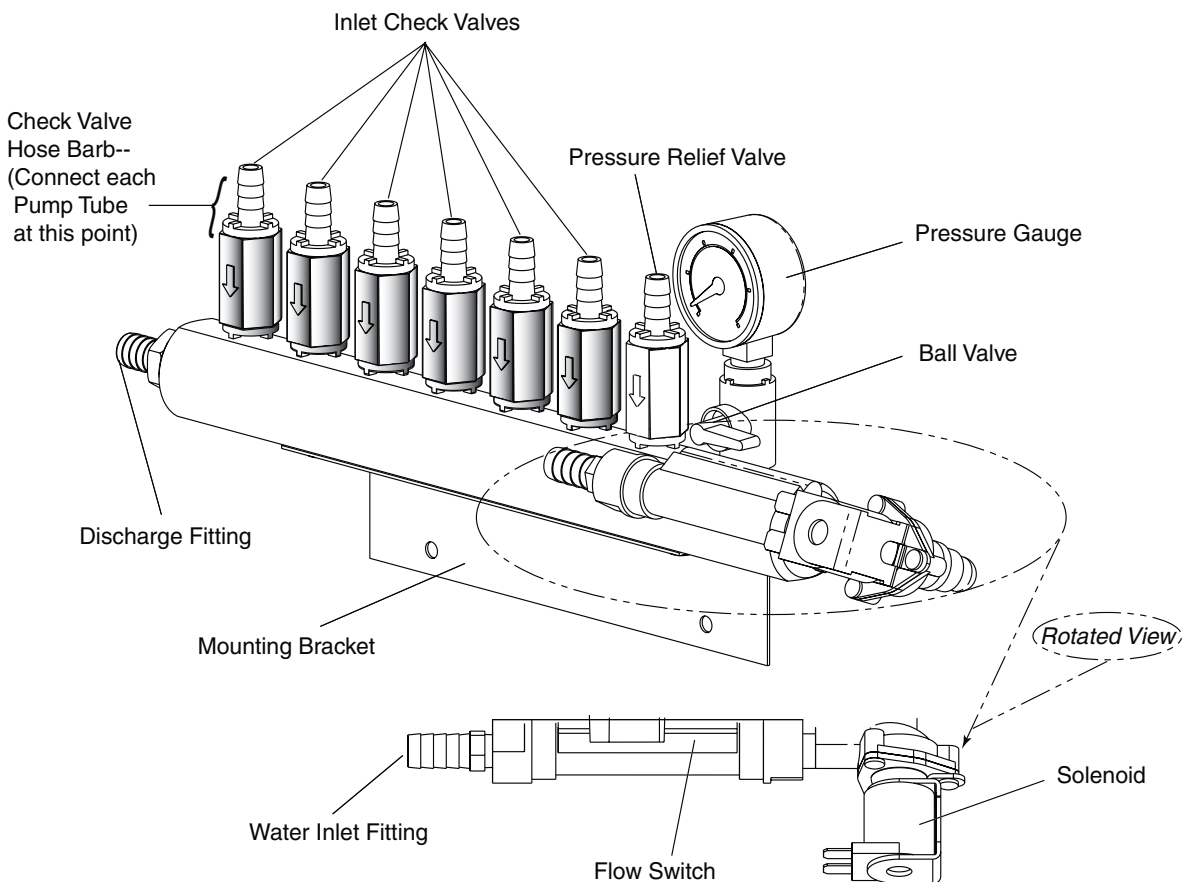
This version of the FM-200 series Flush Manifold has a flow switch, a vacuum relief valve and a pressure gauge with an "open to read" ball valve.

WARNING: Installations that use the version without the flow switch should not run bleach and sour into the manifold. One of these products must be directly fed to the washer or a separate manifold must be used.

1.1 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-200 series Eclipse Controllers or by our LM-100 Orion series using an Orion EXF controller and an Orion II PI board or an 8-pump PI board.

Figure 1.0 System Diagram, Flush Manifold with Pressure Gauge



2.0 INSTALLATION

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

- CAUTION:**
- 1. A locally approved backflow prevention device—not provided—is required for safe and legal operation.**
 - 2. A water pressure regulator is 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.**

IMPORTANT: The flush discharge tubing **MUST NOT** exceed 50'.

2.1 Mechanical Installation

- 2.1.1 Position the FM-200 on the wall below the dispenser Pumpstand with the water inlet and flush discharge fittings on the desired end.
- 2.1.2 Mark each hole on the mounting bracket.
- 2.1.3 Drill the outlined holes with a 1/4" masonry bit and place a wall anchor, supplied, into each hole.
- 2.1.4 Secure the Manifold assembly to the wall anchors with supplied screws.
- 2.1.5 Drop strainer into hose connection and connect hose to spigot.
- 2.1.6 Connect flush outlet hoses.

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 size/type water inlet and/or flush outlet hoses, obtain fittings locally.

2.2 Pump & Transport Tube Connection

Install transport tubes (provided in accessory kit) on the discharge (right) side of the pump. Trim to fit and connect to FM-200 check valve hose barbs. Use hose clamps or tie wraps to secure at check valve.

NOTE: When ordering replacement transport tubes for FM-200 series dispensers with flush manifolds, be sure to specify the tube length:
03-07527-01 for Braided PVC, 12"
03-07527-02 for Braided PVC, 24"

2.3 Hard Copper Plumbing

If the water supply connection must be copper tubing, 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.

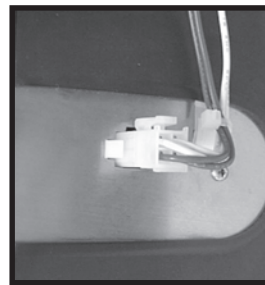
2.4 Electrical Connection

The FM-200 series flush manifold has a single electrical connector specifically designed to connect to either the Eclipse LM-200 series Pumpstand or the LM-100 Orion series using an Orion EXF controller and Orion II PI board or 8-pump PI board.

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

Depress the locking tab on the LM-200 Pumpstand shorting connector (connected to flush connector on non-flush units) and remove. Connect the FM-200 connector to the Pumpstand flush connector.

Figure 2.4 Electrical Connection--



Pumpstand Shorting Connector

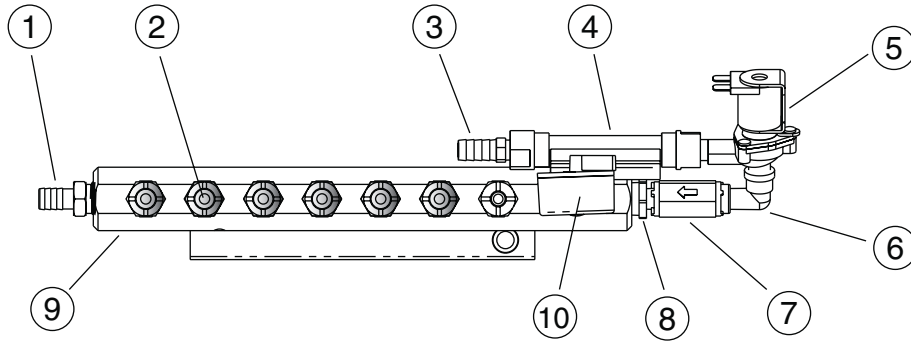
NOTE: Retain shorting connector for reuse in the event that the Pumpstand is used without a Flush Manifold in the future.

3.0 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 new 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 pump. Flush system pressures should be measured while flushing, if possible. Adjust the water pressure regulator for no more than a 10 psi reading while flushing. Inspect flush system for water leaks, and test run a load of linen.

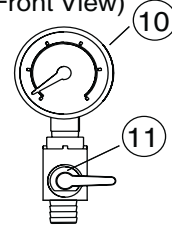
NOTE: To manually open flush valve, to purge or clean water lines and manifold, use the Prime Pumps function of the Eclipse Controller. If no product delivery is required, use an unused pump position or temporarily remove the pump tube.

4.0 SPARE PARTS LISTING



Ref. #	Description	Part Number
1	Flush Outlet Fitting, 1/2" MPT x 1/2" Barb	41-04996-01
2	Check Valve, 3/8" Barb x 1/4" MPT	41-04207-46
3	Water Inlet Fitting, 1/4" MPT x 1/2" Barb	41-06473-84
4	Flow Switch w/1/4" FPT fittings, and Wire Harness	13-06592-00
5	Solenoid Valve, 24 VAC (no strainer)	49-06472-10
6	Elbow, 1/4" MPT x 1/4" FPT	41-06924-44
7	Check Valve, 1/4" FPT x 1/4" MPT	41-06508-44
8	Reducer, 1/2" MPT x 1/4" FPT	41-03965-072
9	Manifold, blank, no parts	46-04764-00
10	Pressure Gauge	49-04808-00
11	Ball Valve	41-04797-00
*	Strainer Kit (with washer), 70 mesh, 10 pk.	13-08480-10

Pressure Gauge
(Front View)



* denotes item(s) not shown.

Limited Warranty

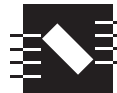
SELLER warrants solely to BUYER the Products will be free from defects in material and workmanship under normal use and service for a period of one year from the date of completion of manufacture. This limited warranty does not apply to (a) hoses; (b) and products that have a normal life shorter than 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 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 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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