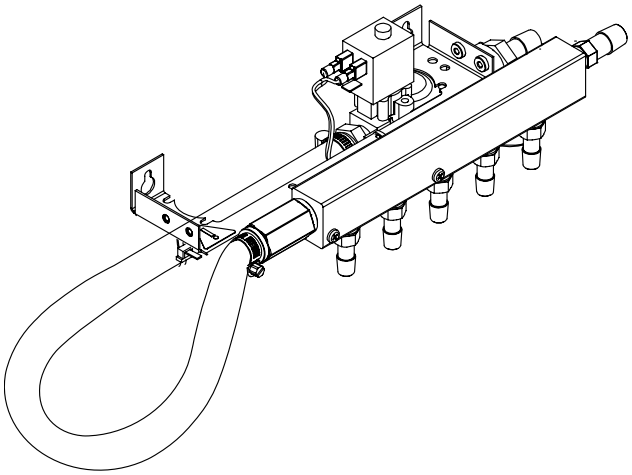
# DIY Flush Manifold

## Installation Instruction and Specifications




*Always turn off system power and wear appropriate protective equipment including safety glasses &/or face shield and gloves when installing products on the system or when servicing the dispensing systems. Read and understand all product labels and MSDS before using or servicing this system.*

*Always bleed off system pressure in a safe manner to ensure no pressurized chemical will spray. Ensure water inlet pressure is under 60 PSI, otherwise the pumps may not be able to pump chemical into the manifold.*

*Use of Series 600 pumps is strongly recommended to prevent accidental over-pressurization of the system during chemical delivery.*

*For maximum safety, Beta recommends the use of a flow switch wired to shut-down the dispensing system if dilution water is not available.*

*System should be programmed to flush with clean water between chemical dispensing steps to avoid mixing incompatible products.*

*Laundry sours should be routed directly to the washer to avoid potential reactions with other laundry products. A Sour Flush Kit (#069505) is available for this type of installation.*

## INSTALLATION INSTRUCTIONS

E flush manifolds come with wall-mount keyholes pre-drilled in the manifold bracket. White check-valve manifolds should always be mounted with the check valves positioned under the manifold (pointing up into it).


*Always seal threads with teflon tape, megalock, or other thread sealant.*

*For optimal performance white translucent check valves should be positioned under the manifold so the chemical comes up into them. (If using grey check valves, they are positioned over the manifold pointing down into it)*

### Assembling the Manifold

1. Screw 1/2" OD water inlet barb into metal solenoid inlet (solenoid has an arrow on it indicating flow direction)
2. Assemble flow control as follows:
   - Insert small black flow washer into female disk with cavity.
   - Push into barb fitting, with the flat side of the female disk going in first
   - Place white disk over black rubber flow control, so it'll be locked into barb fitting once screwed into solenoid.

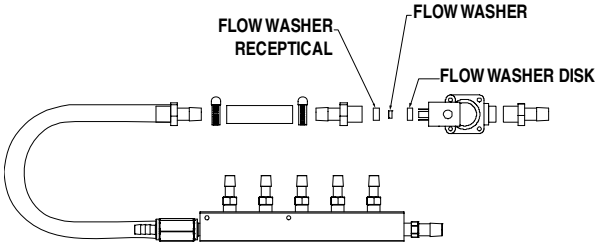



*Figure 1. Flow Control Assembly*

3. Screw 3/8" OD water outlet barb into solenoid; flow control will restrict inlet water pressure down to an acceptable level as long as inlet pressure's under 60PSI.
4. Attach 3/8" ID tube over solenoid outlet barb.
5. Temporarily remove the screws in the solenoid inlet side, the side without the black solenoid coil & electrical connections. Then use the solenoid screws to attach solenoid to bracket.
6. Screw white translucent check valves into holes on side of manifold; they are made of polypropylene so chemicals can't eat away at the plastic, but this makes them very soft, especially if you run hot water through them. Be very careful not to over-torque them or they'll break.

7. Screw grey check valve into manifold inlet end, and screw 1/2" OD barb into manifold outlet
8. Attach manifold to bracket using screws as shown, so check valves are under the manifold and the bracket keyholes “point up”.

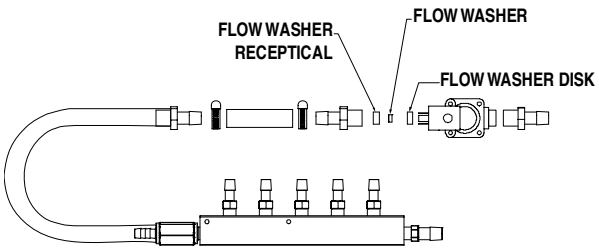
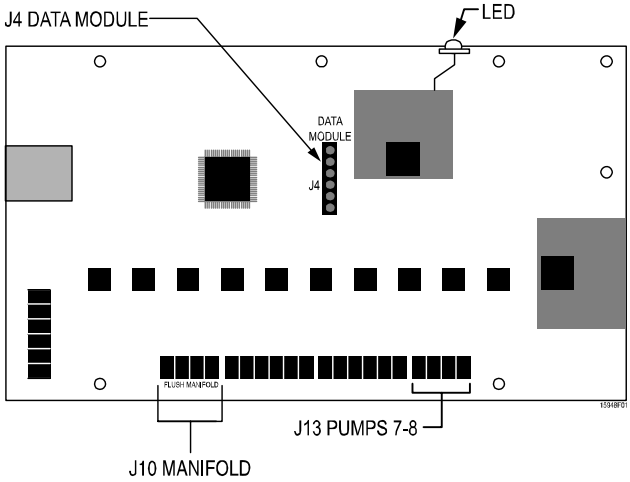



*Figure 2. Attaching the Manifold*

9. Route 3/8" tube in a loop from solenoid outlet barb to manifold inlet barb. (You may want to tie wrap it to the end of the manifold bracket).
10. Plug wire harness into pump drive number 8 (shown below). Do not use the manifold connection; the manifold connection point is only used with versions of the manifold that include the flow switch.




11. Cut connectors off of wire harness, strip ends, and recrimp larger connectors included in kit onto wires
12. Attach to the two solenoid connectors that are parallel to one another. Do not attach anything to the third solenoid connector which is perpendicular to the others.

### Mounting on the Wall

For best results, center the manifold under the dispenser, about 8 to 10 inches below it. This will allow adequate space for the wiring harness.

1. Position the manifold under the E dispenser allowing adequate space for delivery lines and easy servicing.
2. Fasten the manifold to the wall using the keyhole slots in the mounting bracket. Use screws that are appropriate for the wall surface.
    - You may install a flush system up to 30 meters (100 feet) from the washer. This distance is based on using 12 mm or 1/2-inch tubing. Some customers have obtained satisfactory results with the manifold as far as 200 feet (60 meters) from the washer.
    - You may need to reduce distance to compensate for the effects of high-viscosity products.

### Plumbing

NOTE

- *We recommend that you use 1/2” ID inlet tubing and 1/2” ID outlet tubing.*

1. Connect the water inlet tubing to the manifold.
2. Connect the chemical lines from the outlet side of the chemical pumps to the check valves on the manifold and fasten them with hose clamps. Be sure to leave sufficient slack in these lines to allow service access.
3. Connect the manifold outlet tubing to the barb with a hose clamp and route to the washer.

## PROGRAMMING

Using the manifold without the usual flow switch/flow switch logic, flush times must be programmed for each dose as follows:

1. Add a 10 second delay before each chemical dose.
2. For each chemical dose, set up a pump action "C" for pump 8, with no delay, and a runtime =your longest chemical dose + the transport time, using a transport time of 1 second for each 2' to the washer.

Example: My longest dose is about a 30 second runtime, coupled with the 10 second delay is 40 seconds. It is 20' to washer, so I need a transport time of 20/2=10 seconds. Plus the original 40 seconds, is a total of 50 seconds.

The dispenser has volumetric programming, so you will need to program volume for the flush time.

Based on the default calibration value of 16.9 oz/sec, I program the flush time in oz as follows:

| Pump 8 "Volume" | Flush Time Resulting |
|---|---|
| 3.4 oz | 20 seconds |
| 5.1 oz | 30 seconds |
| 6.8 oz | 40 seconds |
| 8.5 oz | 50 seconds |
| 17 oz | 1 minute |

NOTE

*You must keep the calibration value at the default of 16.9 oz per minute, as changing it will alter the flush time. Note that the “volume” isn’t actually a water volume, but is meant to turn the solenoid on for a fixed amount of time.*