

# **FLOMATIC<sup>®</sup>**

## **INSTALLATION INSTRUCTIONS 464, 424 & 324 POST-MIX VALVES**

The Flomatic valves are available in manual, electric, portion control and automatic fill models. All Flomatic valves share the same mounting and flow control characteristics. The 324 valves are also compatible with the [300-Q](#) mounting block. Those instructions are not included here.

### **MOUNTING BLOCK**

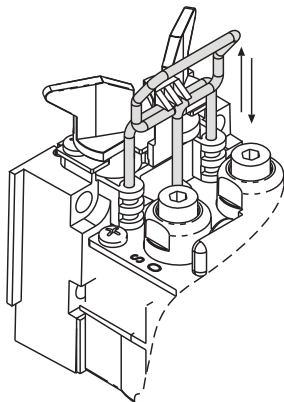
Prior to installation determine which mounting block you need. The Flomatic mounting block kit [5007842](#) has inlet "O" rings sized for both inlet port sizes (located at the rear of the block) port. Sized at 0.380 inches is compatible with most current mounting block inlet fittings.

### **INSTALLATION / REPLACEMENT**

Be sure to relieve system pressure prior to beginning work. When replacing most other brand valves with the Flomatic valve, remove the existing mounting block and install the appropriate Flomatic mounting block. This is an easy first step – just align the four bolt holes and mount. The Flomatic mounting blocks have a positive shut off and mounting system to prevent accidental removal while the system is pressurized. The valve cannot be removed unless the shut-off valves are in the closed position (arrows pointed across the service line).

The hole pattern for most current valves will have key slots for the product supply lines. Some older valve mountings may require the use of the "S" clip 2 to hold the product supply lines in place (available as an option).

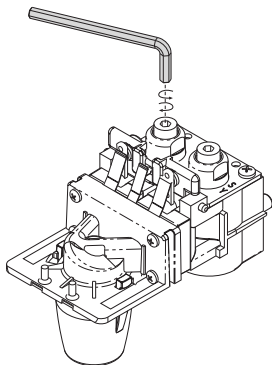
Remove the valve cover and align the valve stems with the mounting block. Engage the valve and depress the latch pin. **Do not force the latch pin down or you may bend the latch pin.** If you are having difficulty, simply re-engage the valve and try again. Be sure the valve base is completely seated against the mounting block. Open the shut-off valves by turning 1/4 turn (arrows pointed toward the service line) to engage system pressure.



## FLOW CONTROL & BRIX

Two simple adjustments are all you need to brix the Flomatic valves. You will need a Flomatic S tube syrup separator, 5/32 inch hex wrench, watch and brix cup. Place the S-tube syrup separator over the syrup diffuser and you are ready to begin. You need not remove the nozzle. Clockwise movement of the brix nut adjustment screw increases the flow rate and vice versa. Restrict the flow by withdrawing the brix nut adjustment screw as far as it will go (turn counterclockwise). At this point the flow will be at a minimum.

The 424 or 324 ceramic flow controls can be adjusted from 1.5 oz. /sec. to 3.0 oz. /sec. Turn the



soda brix nut adjustment screw five full turns clockwise and the flow rate should be close to 2.5 oz./sec. You will need to fine tune from there. For fast flow, continue adjusting the valve until you get 7.5 oz. of soda in 3 seconds. Once the soda flow rate is set, then establish the syrup ratio in exactly the same way.

The 464GP ceramic flow controls can be adjusted from 2.0 oz./sec. to 4.0 oz./sec. Turn the soda brix nut adjustment screw five full turns clockwise and the flow rate should be close to 3.0 oz./sec. You will need to fine tune from there. For fast flow, continue adjusting the valve until you get 9.0 oz. Of soda in 3 seconds. Once the soda flow rate is set, then establish the syrup ratio in exactly the same way.

Most brix cups are calibrated for a standard brix ratio. Adjust the syrup flow with movement of the adjusting screw until the desired ratio is established. Some Flomatic valves are equipped with a flow washer on the water side instead of flow controls. In that case, it is not necessary to set the flow rate. Simply set the syrup ratio and you are done.

Flomatic juice valves may combine with a flow washer on the water side. The syrup side may be manufactured with a flow control or metering screw. The metering screw turns clockwise to close and counter clockwise to open. **The screw does not have a stop**; be sure not to withdraw completely when under pressure.

## **SYNCHRONIZATION**

When converting a manual 424 valve to electric solenoid operation, the actuators need to be removed prior to installing the yoked armature solenoid coil. The actuators are the white pivots that engage the pallet stem.

Synchronization should only be necessary when converting an electric to manual valve, in which case you may be adding the actuators. The soda adjustment screw needs to be adjusted until it is snug (not tight). If too tight, the valve will remain open and leak. Set

the soda side first and then follow with the syrup actuator. The syrup actuator needs to be tightened until snug and then backed off 1/4 turn. These settings will allow for proper synchronization of the soda and syrup on a manual valve.

## **WATER / SODA ONLY**

Installation of a Flomatic Add-A-Lever is easy. If you have the pallet actuators as described above, simply remove the valve cover and place the Add-A-Lever (with the side attachment removed) on the end of the pivot pin. Replace the cover and it will be firmly held in place to provide soda only when desired. If you have the electric operated valve without the actuators, the side attachment of the Add-A-Lever is placed through the pivot pin to push against the pallet stem. The lever portion of the Add-A-Lever is placed on the end of the pivot pin. Replace the valve cover and the Add-A-Lever will be held in place.

## **PORTION CONTROL**

The Flomatic portion control electronics are contained with the cover and can be factory or field installed. When installing in the field, simply order the portion control conversion kit to upgrade an electric valve to full portion control.

The portion control module is designed to simplify installation for the service technician. No more wasted product trying to set the time through trial and error. The board can be programmed with the first pour.

The "Stop/Fill" button does just that; it serves as a top-off button and cancels any of the timed portions if the operator needs to abort the pour. If the board has never been programmed, the only button that will be responsive is the "Stop/Fill" button. Cup sizes are pre-programmed at the factory: 1 sec. = small, 2 sec. = medium, 3 sec. = large, 4 sec. = extra large. These timed portions are helpful in setting flow rate; i.e., 7 ½ oz. soda in 3 seconds.

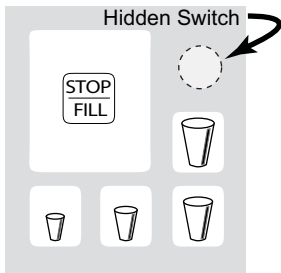
There are four cup sizes: small, medium, large and extra large. Each cup size needs to be programmed separately. Set the flow rate first and then brix the valve. By doing so, you will be sure to set times that match your desired flow rate. Once the valve is brixed, you can replace the valve cover because the times (cup sizes) are all set from the front switch pad.

The switch pad has a hidden "program" switch which needs to be held down to keep the module in program mode.

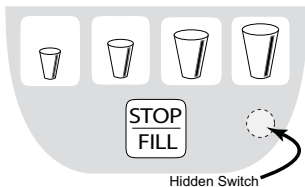
Setting the times or programming is a two handed operation: **push and hold** the program switch with one finger while dispensing the cup size you wish to program with another.

Once the drink is full, simply release the cup size button to end the pour cycle and then let go of the program switch. Repeat the process for each cup size and you are finished.

The module will remember one top-off cycle automatically if the foam height requires a top-off to complete the pour. To program a top-off cycle, simply begin programming as described above. Once the foam crests the top of the cup, **PAUSE** by removing your finger from the cup size button. Do not release the program button or it will think you're done. Pause long enough for the foam to settle, and then continue your pour with your finger on the **same cup size** button until the



424/324 Portion Control Touch Pad



464 Portion Control Touch Pad

cup is full. The portion control module will remember the sequence “pour – pause – pour” just as it was executed. If you program the top-off feature, be sure to train the operators so they do not pull a drink before the cycle is complete. The portion control module will finish the pour whether a cup is there or not.

## **AUTOMATIC FILL VALVE**

The Flomatic Automatic Fill valve can be used to dispense both carbonated and noncarbonated products. The valve is factory set for carbonated products where a delayed top-off is standard, and the wire-lead plug should be attached to pins 1 and 2 (those furthest to the left). If your installation uses noncarbonated products requiring no top-off, you will need to adjust the position of the lever wire-lead plug on the electronics. For noncarbonated products, the wire-lead plug should be attached to pins 2 and 3 (those furthest to the right), as shown in the photo. The Automatic Fill valve requires no sensitivity adjustments. The valve automatically delays top-off if more foam is present after the initial pour, and performs a top-off more quickly if less foam is present.

## **CLEANING**

Under normal operating conditions, periodic cleaning is minimal but necessary. Remove the nozzle and soda diffuser. Using warm water and a mild detergent, clean each part with a brush. Once finished, rinse well and reassemble. If you wish to soak the nozzle and diffusers, soak them only in soda water, **never use bleach**. Brush lever slot with warm water to prevent syrup build-up and sticking. Wipe cover and panel with a clean cloth and you are finished. Nothing more need be done unless you experienced a problem. Regular servicing and cleaning of the complete beverage system is advised to maintain proper functioning of the equipment. Be sure to follow instructions provided by the manufacturer.

## TROUBLE SHOOTING

Occasionally, the valve will not perform as desired. Here are some helpful hints:

- BRIX:** Reset the flow rate and re-brix the valve. Look for foreign matter in the adjustment screws, flow controls or pallet seats. Sometimes if a system is not flushed completely at startup, foreign particles, etc. will be introduced into the system.
- BUZZING:** Make sure the plungers in the older style double coil solenoid are properly aligned. Do not lubricate the plungers with anything other than a "dry" product, e.g., silicone spray.
- LEAKS:** Check for damaged or improperly fitted O-rings. The slightest piece of hair, dust, etc., on the sealing surface may contribute to a leak. When in doubt, replace an O-ring. Be sure you have the correct O-ring and fitting combination for the respective mounting block.

## FLOMATIC WARRANTY

# **FLOMATIC**<sup>®</sup>

Manitowoc Beverage Systems guarantees all Flomatic products free from defects in material and workmanship under normal use and service for two years from date of purchase. If defective, Manitowoc Beverage Systems will, at its sole discretion, repair or replace the defective item at no charge.

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