

## Multi-Function Valves for E-Class Metering Pumps

**Please read this manual before using the product.**

### General Information

The MultiFunction Valve is an accessory to the Walchem family of metering pumps. It is specifically designed to be mounted and used with the E Series electronic metering pumps. The MultiFunction Valve combines the air vent and bleed capabilities of the manual air vent valve with anti-siphon, back pressure, and pressure release functions. It is easily mounted onto the pump by removing the standard manual air vent valve and replacing it with the MFV. No tools are necessary.

- Air Vent/Bleed allows the pump to be easily primed or have air purged even when the discharge line is pressurized.
- Back Pressure of approximately 30PSI is supplied to the pump. This increases the pump accuracy & repeatability in applications with little or no system pressure.
- Anti-Siphon enables the accurate metering of chemical when the discharge point is located below the surface level of the chemical.
- Pressure Release enables the pressure in the discharge line to be released and drained.



## INSTALLATION



**Disconnect the pump from the electrical power source before performing maintenance. Release the pressure in the discharge tubing before disconnecting the tubing or performing any maintenance on the pump.**



1. Un-thread the lock nut and remove the manual air vent valve by holding the manual air vent valve and turning the lock nut counter-clockwise (looking from the top).

The manual air vent valve will simply lift off. Make sure the o-ring is still seated inside of the valve housing (which is in the middle of the lock-nut). 2.



3. Insert the threaded part of Multi-Function Valve back where the manual air vent valve was located. The o-ring and seal surface should be free of debris.

Using one hand to hold the Multi-Function Valve in place, tighten the lock down by turning it clockwise. 4.



5. Hand tight is typically sufficient, but an open-end or adjustable wrench may be used to snug it into place. Do NOT over tighten the nut!

Install tubing and begin operation. (See pump instruction manual for the proper installation of the tubing.) Check that liquid does not leak from any part of the valve. 6.



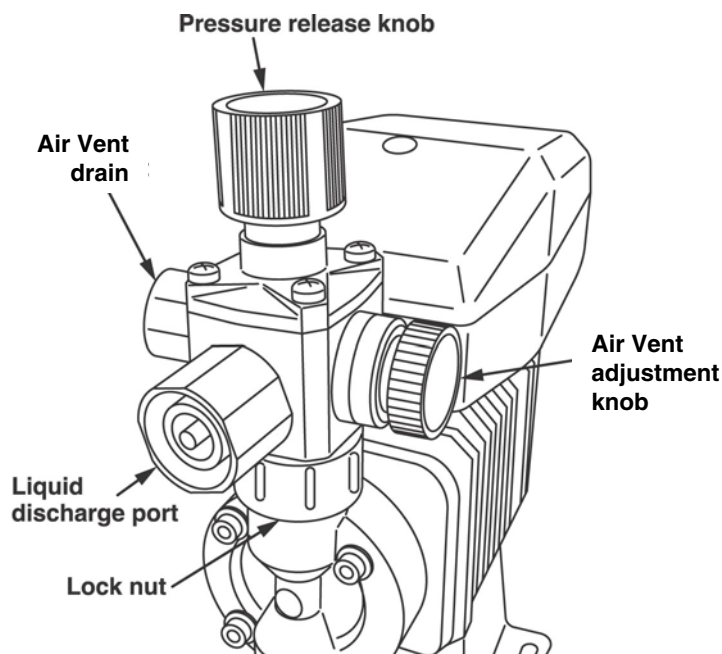
## OPERATION

### Air Vent / Bleed Function

- 1) Open the air vent by turning the air vent adjustment knob counter-clockwise one to one and a half turns.
- 2) Operate the pump until all of the air is purged and only liquid is discharged from the air vent drain.
- 3) Turn the air vent adjustment knob clockwise until it bottoms out and will not turn further.

### Back Pressure / Anti-Siphon Valve

- 1) A spring-loaded diaphragm automatically adds 30PSI of back pressure to the discharge side of the pump when the air vent adjustment knob is closed.
- 2) If back pressure is not observed, the pressure release knob may be in the release position (the knob is resting in its 'up' location). If this is the case, turn the knob clockwise until it 'clicks' down (approximately  $\frac{1}{4}$  turn).
- 3) The diaphragm prevents siphoning of chemical through the pump.



### Pressure Release

- 1) Stop the pump operation.
- 2) Turn the pressure release knob clockwise until it 'clicks' into the release or 'up' location (approximately  $\frac{1}{4}$  turn). If the knob is turned too far, it will 'click' again return to the back pressure or 'down' position. If this happens, keep turning the knob clockwise until it 'clicks' one time in the release ('up') position.
- 3) Turn the air vent adjustment knob counter-clockwise one or one and a half turns to release the pressure in the discharge tubing/piping through the air vent drain. The air vent drain should always be plumbed back to the supply tank or to safe disposal. Do not submerge the air vent drain tubing under chemical in the supply tank.



**Caution:** Confirm that liquid is discharged from the air vent drain. If the liquid is not discharged, the pressure may not be released. If this is the case, repeat the Pressure Release procedure.

## MAINTENANCE & INSPECTION

### Cleaning of the Multi-Function Valve

- 1) Remove four screws that hold down the top cover of the valve.
- 2) Completely unscrew (counter-clockwise) and remove the air vent adjustment knob.
- 3) Clean all of the ports inside of the valve.
- 4) Clean the diaphragm face. Ensure that there is no debris on the diaphragm or on the air vent adjustment knob o-rings.
- 5) Re-install the air vent adjustment knob turning it clockwise until it bottoms out.
- 6) Re-attach the top cover of the valve with the four screws. Be sure to put the top cover into the same position as it was originally. (The top cover and MFV body have paint marks across one corner of the joint to help with positioning.)

## SAFETY & CAUTION NOTES

### **Wear Protection**

When working on or around a metering pump, always wear proper protective clothing and equipment as recommended by the supplier of the chemical being pumped.

### **Remove Power**

Disconnect the pump from the electrical power source before performing any maintenance. If the pump starts operation, chemical may be sprayed and cause injury.

### **Application of Product**

Use this product within the specified range. Using the product in any other application than its intended purpose may result in personal injury or damage to the product.

### **Release Pressure**

Release the pressure in the discharge tubing before disconnecting the tubing or performing any maintenance on the pump.

### **Do Not Modify the Product**

Never attempt to modify the product. Alteration of the product may produce a dangerous situation.

### **Use Correct Tubing**

Using tubing other than the size specified may cause leakage or the tubing to detach from the pump connections. Only use the sizes specified.

### **Do Not Use Damaged Product**

Using a damaged product may cause leakage or injury.

**Not observing precautions may cause injury or damage to the product.**

## SPECIFICATIONS

### 1. Identification:

Part Number	Description	Material
E90362	MultiFunction Valve, 3/8"ODx1/4"ID Tubing	VC
E90363	MultiFunction Valve, 3/8"ODx1/4"ID Tubing	VE
E90364	MultiFunction Valve, 3/8"ODx1/4"ID Tubing	PC
E90365	MultiFunction Valve, 3/8"ODx1/4"ID Tubing	PE



### 2. Applicable Models and Ordering Information:

Available for the 11, 16 & 21 size E Series metering pumps, the Multi-Function Valve can be ordered either as part of the pump or separately as an add-on accessory. When ordering with the pump, simply add a 'M' at the end of the pump model code:

EXAMPLE: **EWC16Y1-VCM**

### 3. Materials of Construction

Housing	PVC or GFRPP
O-Rings	FKM or EPDM
Diaphragm	PTFE w/EPDM

### 4. Back Pressure:

Back Pressure Provided 30 ±10 PSI

### 5. Temperatures:

Ambient Temperature	32-120°F
Liquid Temperature	32-105°F (PVC models) 32-140°F (GFRPP models)