

VCA-F Automatic Air Vent Valve Option

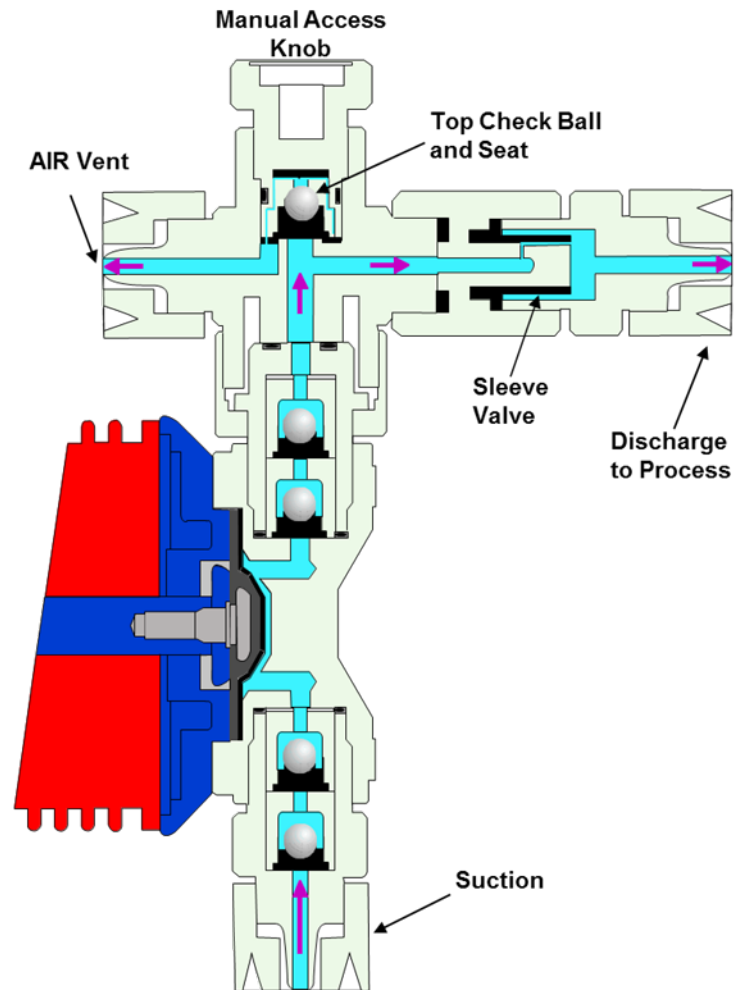
The VCA-F option with the First Generation Auto Air Vent Valve is an option on select EWN, EZ and EK pumps for flooded suction installations or where the ADV is not performing as desired. The AAVV is still an excellent answer to gassing problems. Simple, no adjustment needed and no confusion. The AAVV maximizes safety when working with liquids that gas.

Common Gassing Problems

Certain liquids, such as solutions of sodium hypochlorite and hydrogen peroxide, have a tendency to generate gas as they slowly decompose. A metering pump operating continuously will generally pass these minute bubbles. When the pump is off for long periods of time, however, these small bubbles can combine to form a large bubbles directly below the pump's suction valve. When the pump starts up again this bubble enters the pump head and the pump is unable to purge the bubble against any significant pressure. The more backpressure in the system, the smaller the bubble it will take to air lock a pump, causing it to stop dispensing chemical critical to the system.

Auto Air Vent Valve Operation

During priming, the access knob does not have to be loosened as with a manual air vent valve as pressure is automatically relieved through the vent. The Top Valve Guide assembly uses a bottom seat to ensure that air is not introduced into the discharge media and utilizes a precisely machined top seat to allow gas to be quickly purged but limits the amount of liquid returned to the tank. During each discharge stroke, if gas is present, the AAVV top check ball remains in the 'down' position. A small amount of gas and liquid will be discharged to vent, but the remaining fluid is pumped into process. If no gas is present - the ball will "lift" and seal against the inside of the guide, minimizing the amount of fluid vented. A sleeve valve located on the discharge maintains a back pressure on the system which guarantees the ball to rise and seat. In summary, when gas is present it is vented and when not present the ball will lift and seat, allowing a small vent of liquid mixture to return to the tank, but always trying to purge the compressible gas quickly and allow the pump to reprime itself.



AAVV - Cross Sectional View

WALCHEM

IWAKI America Inc.

EWN-B16 VC U R **A** - **F**
 1 2 3

1 Standard Pump Model Number

2 A: Auto-Degassing Option

3 F: AAVV-VC-7 Version (1st generation AAVV added for flooded suction applications)

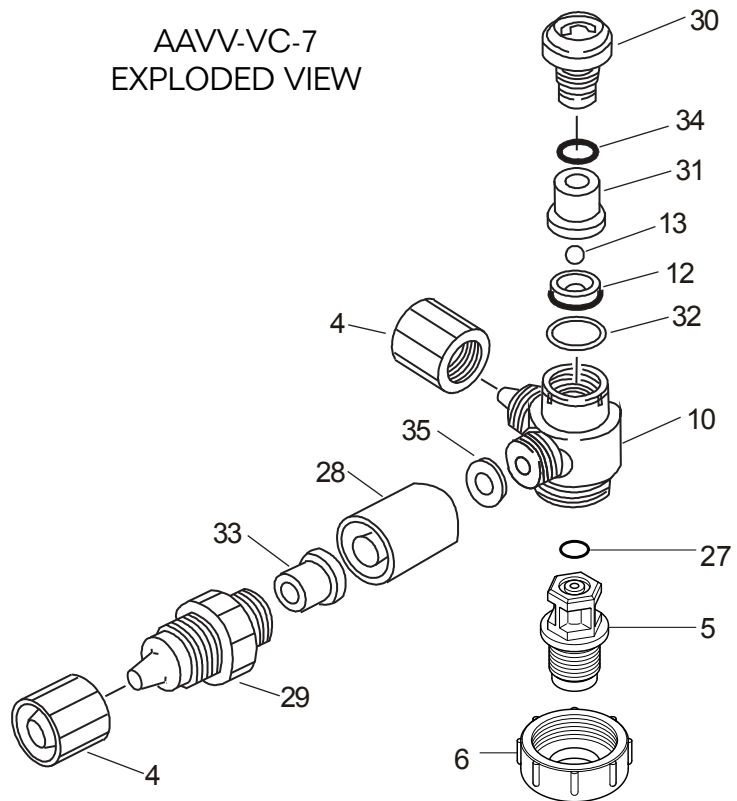
Blank: Standard ADV Degassing valve (see ADV brochure)

Auto Air Vent Valve Installation

The AAVV version of degassing valve, used in the VCA-F liquid end, replaces the standard Manual Air Vent Valve on the discharge side of the pumps. It is used in applications where gassing is a problem, pumps can or often lose prime, and the installation is a flooded suction condition. The Auto Air Vent Valve constantly bleeds a controlled amount of volume out of the "Air" vent. Therefore, the "Air" vent should always be plumbed back to the source tank.

Addition of the AAVV onto a metering pump will reduce the pressure capability rating of the pump by approximately 40 psi. With this reduction, output flow rates will be maintained.

AAVV-VC-7
 EXPLODED VIEW



#	Part Number	Description	Material
4	EH0401	Nut, Coupling, 3/8	PVC
5	EH0294	Fitting, Air Vent	PVC
6	EH0295	Nut, Lock, Air Vent	PVC
10	EH0861	Body, Auto Air Vent	PVC
12	EH0061	Seat, Valve, 0.188	FKM
13	EH0025	Ball Valve, 0.188	AL, CE
27	EH0304	O-Ring, P7	FKM
28	EH0864	Fitting, Adapter, AAVV	PVC
29	EH0867	Fitting, AAVV	PVC
30	EH0774	Knob, AAVV	PVC
31	EH0862	Guide, Valve, AAVV	Titanium
32	EH0775	Spacer, AAVV	PVC
33	EH0865	Tube, Valve, AAVV	FKM
34	EH0776	O-Ring, S12	FKM
35	EH0866	Gasket, AAVV	FKM