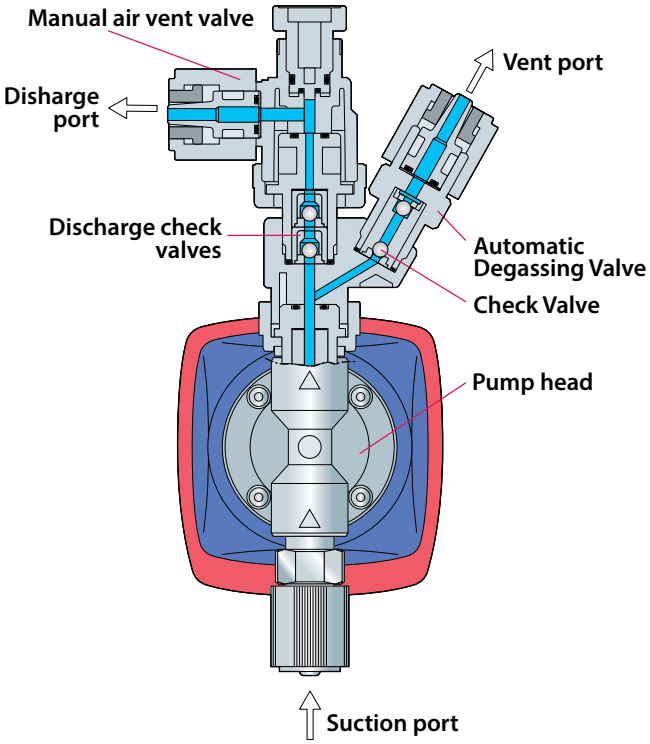
Auto Degassing Valve (ADV)

Auto Degassing Valve

The new Auto Degassing Valve greatly improves the degassing capabilities of the E-Series metering pumps. The new design uses a dual check valve system to maintain proper pump operation to vent gas out the valve and back to the supply source. The ADV retains the full pressure capabilities of the pump.

The Auto Degassing Valve is available as an accessory and can be installed onto any of the 21 sized or smaller EW, EZ, EK or EWN series pumps. Installation between the pump head and the existing manual air vent valve makes field conversions simple, and maintains the functionality of the full manual air vent valve.



Principle of Operation:

As air or gas is pulled into the pump head, pump operation and gravity help work the gas bubble up through the pump head. Due to system pressure, the trapped gas compresses with each stroke and the discharge check valves will not open causing a gas or air lock condition.

The vent of the Auto Degassing Valve, however, is under no pressure and because the discharge valves are above the vent, the gas moves toward the vent with each pump stroke. The design of the double check valve in the ADV limits the amount of liquid that passes through before sealing shut forcing the rest of the volume out the discharge while gravity, coupled with the suction stroke of the pump, reseat the valves for the suction stroke.

Being compressible, as the gas makes its way to the check valves in the ADV, it will quickly purge through the Auto Degassing Valve. Once enough of the gas is purged out the vent, and each pump stroke can overcome the discharge pressure, regular pumping will resume.

During normal operation, with each stroke a small amount of liquid will be 'vented' out the ADV ensuring flow for the next time gas enters the pump head.

ADV - VC - 7
1 2 3

1 Auto Degassing Valve

2 Materials of Construction

VC = PVC Housing
FKM Seats and Seals
Titanium Separation Pin

VE = PVC Housing
EPDM Seats and Seals
Hastelloy C276 Separation Pin

VCH = PVC Housing
FKM Seats and Seals
Hastelloy C276 Separation Pin

3 Connection

7 = 3/8" OD x 1/4" ID

Installation:

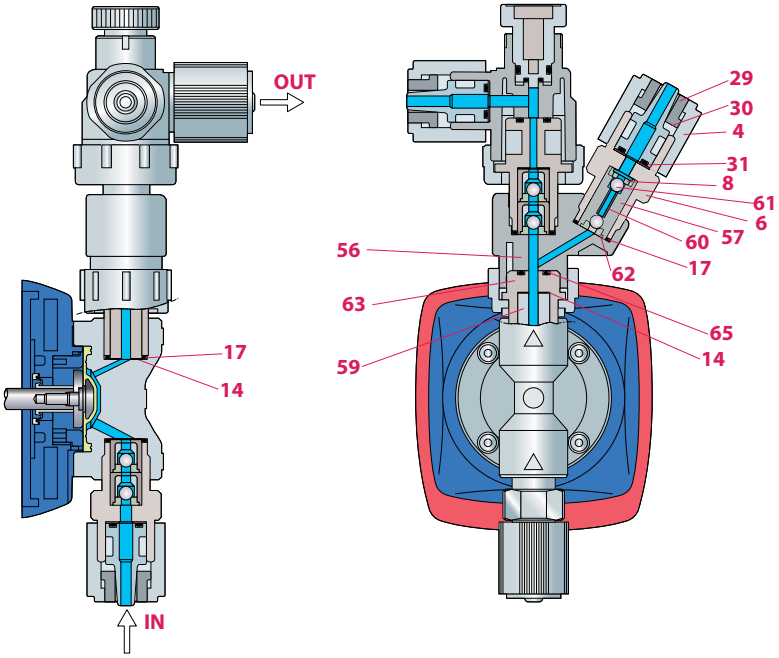
1. Remove the entire discharge assembly of the pump (MAVV, Lock nut, Valve Housing, Valve Guides, Seats and Seals) from the pump head.

2. Install the new Lock Nut, Valve housing, Spacer, two Gaskets and O-ring of the ADV into the pump head.

3. Use the Lock Nut to secure the Auto Degassing Valve Body onto the Valve Housing with P7 O-ring in between.

4. The entire discharge assembly from the pump is then reinstalled on top of the ADV.

5. Reconnect tubing and add tubing to the ADV back to the supply tank.



#	Part Name	VC	VE
4	Coupling Nut	PVC	
14	Valve Gasket	PTFE	
17	O-Ring, S14	FKM	EPDM
29	Tubing, Clamp	PPS	
30	Tubing, Adapter	PVC	
31	O-Ring, P9	FKM	EPDM
56	Body, ADV	PVC	
57	Guide, Separation ADV	PVC	
58	Top Disc, Guide	PVC	
59	Spacer	PVC	
60	Separation Pin	Titanium	Hastelloy C276
61	Valve Ball	Alumina Ceramic	
62	Valve Seat	FKM	EPDM
63	Valve Housing	PVC	
65	O-Ring, P7	FKM	EPDM
66	Valve Housing, ADV	PVC	

See Exploded views on www.walchem.com for part numbers

Addition of the ADV onto a metering pump will reduce the rated output of the pump by approximately 15-20% as this extra chemical is pushed through the vent side of the valve and back to the supply tank.

The unique design of the ADV relies on the suction stroke of the pump with gravity to create a subtle liquid pull back into the pump head with each stroke enabling the trapped gasses to escape out of the vent. The new ADV was designed specifically for suction lift applications.

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