

## Series "ARV" Thermoplastic Air Release Valve

Self-Guided Poppet Assures Dependable, Repetitive Operation

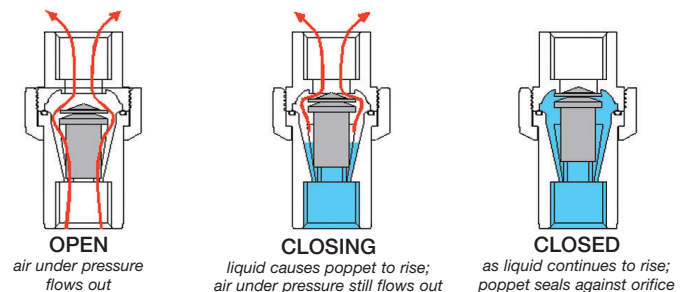


### Features:

- **Safety:** Allows safe expulsion of unwanted air in piping system.
- **Dependability:** Unique self-guided poppet assures minimal emission of system liquid prior to sealing.
- **Convenience:** Union simplifies valve inspection/removal with minimum piping breakdown.
- **Minimum Closing Pressure:** Closes at 0 PSI, as long as liquid is present. Valve closes as liquid rises, after virtually all unwanted air is forced out. Seals bubble-tight at system pressures as low as 10 psi (EPDM seals).
- **Cost Efficient:** Designed to improve system performance and competitively priced.
- **Superior Design:** Poppet seals more reliably than ball design; does not deform under pressure like a hollow ball.
- **Corrosion Resistant:** Top quality thermoplastics and elastomers resist chemical attack and protect system purity. No metal components in Series ARV.

### Description

Series ARV is a normally-open valve. Until your system is pressurized, the valve is simply open, and air is present. As pressure builds within the system, unwanted air is forced to the highest point in the system, i.e., the normally-open air release valve. When pressure within the system exceeds atmospheric pressure, air is expelled. As liquid rises, the poppet becomes buoyant and eventually closes. (Note, minimum specific gravity of liquid must be .9 or higher). It is possible that trace amounts of air will remain in the system, depending on the rapidity with which the valve closes. It is also likely that some trace amounts of process liquid will be emitted. At system pressure of 10 PSI (with EPDM elastomer), the poppet will seal bubble-tight against the orifice. When pressure and liquid level drop, the valve will automatically re-open.\*



The poppet is guided by a series of thermoplastic ribs within the valve. The poppet is a unique design by Plast-O-Matic Valves, Inc. that is engineered to provide a balance of buoyancy and sealability. This balanced poppet is the key to the superior performance of this valve: it is dense enough to permit maximum emission of unwanted system air, yet buoyant enough to affect a

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# SERIES ARV – THERMOPLASTIC AIR RELEASE VALVE

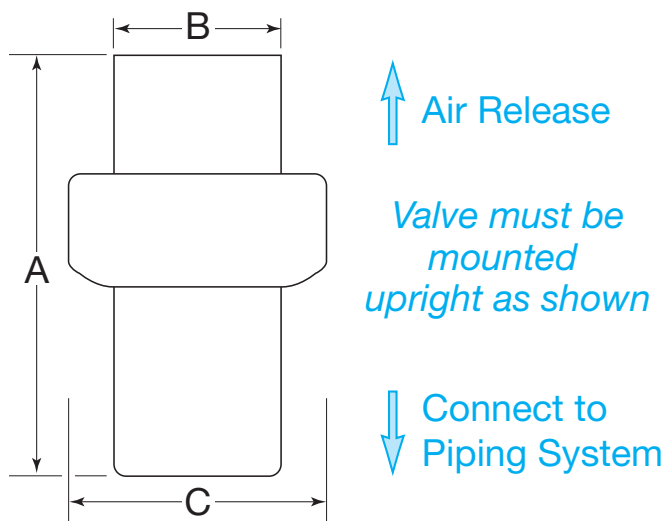
quick seal and minimize emission of the process liquid. Historically, competitive air release valves have used ball-type sealing mechanisms that either seal too rapidly or allow excessive liquid to escape.

**\*Note:** Although Series ARV is a normally-open valve, it should not be used in lieu of a vacuum breaker due to safety considerations, such as continual emission of corrosive vapors.

## Installation:

Series ARV should be installed at the highest possible point in a piping system or vessel, and it must be oriented upright. In most cases, residual liquid and/or vapor in the valve may be expelled from the outlet port just prior to valve shut-off. Therefore, it is recommended to pipe the outlet port to a safe area for hazardous liquids, or use a standpipe for non-hazardous liquids.

## Dimensions and Specifications:



### SERIES ARV – DIMENSIONS AND MODEL NUMBERS

PIPE SIZE NPT	A		B		C		MODEL NUMBER
	in.	mm	in.	mm	in.	mm	
1/2"	5.3	130	1.9	48	2.8	72	ARV050EPT-PV
3/4"	5.3	130	1.9	48	2.8	72	ARV075EPT-PV
1"	4.7	120	1.9	48	2.8	72	ARV100EPT-PV

Available in Geon® PVC, Corzan® CPVC, GPP Polypropylene and Kynar® PVDF

ARV(series) 050 (size) EP (material) T (threaded) - PV (body material). Part numbers shown are EPDM seals with PVC bodies.

**Note:** All three sizes are based on the 1" valve; the 1/2" and 3/4" sizes use reducing bushings.

- For Viton seals, change "EP" to "V" (ARV050VT-PV).
- For Corzan CPVC, change "-PV" to "-CP" (ARV050VT-CP) for Polypro change "-PV" to "-PP" (ARV050VT-PP) for PVDF change "-PV" to "-PF" (ARV050VT-PF).
- Standard connections are threaded. For socket connection, change "T" to "S" after seal material (ARV050EPS-PV)
- For spigot or other connection types, consult factory.

### ADDITIONAL SPECIFICATIONS

Pressure required for bubble-tight seal	EPDM Elastomer: 10 PSI	Viton Elastomer 15-20 PSI
Pressure Rating at 75°F (24°C)	PVC, CPVC, PVDF: 150 PSI	GPP: 100 PSI
Maximum Air Flow Rate**	Air Flow Rate: 8 SCFM	Liquid Flow Rate: 60 GPM***

\*\* Note that excess of 8 SCFM airflow out of the valve will have sufficient force to lift and close the poppet, even though more air may be in the system. Liquid pumping into the system at flow rate exceeding 60 GPM (225 LPM) will create air flow in excess of 8 SCFM.

\*\*\* For flow rates greater than 60 GPM use multiple units.