

D-070-P 150 PSI

Dynamic Combination Air Valve **PATENTED**



Description

The D-070-P Dynamic Combination Air Valve is a unique valve, operating without a float and utilizing the rolling diaphragm principle. This unique structure allows the dynamic air valve to discharge air from the water system in a controlled and gradual manner, thus preventing slam and local up-surges. When vacuum (down-surge) occurs, the valve reacts quickly to admit large volumes of air into the water system, thus impeding down-surges and, consequently, all pressure surges in the line. The air & vacuum component of the dynamic air valve is normally closed when the line is not operating, thus preventing the infiltration of debris and insects into the water system.

Applications

Recommended installations:

- Standard installation on water systems when the pipeline diameter is 8" or greater.
- Installation on water systems for all pipeline diameters when the slope of the pipeline is greater than 2%-3%.

Operation

When the system is charged and the pipeline begins to fill with water, air flows in the pipeline and enters into the dynamic air valve, raising the rolling diaphragm sealing assembly to the open position. Air is then discharged, mainly through the lower chamber large orifice as well as small amounts of air released through the upper chamber operating valve orifice. When the ensuing water enters the dynamic air valve, it fills the lower chamber and some of it flows up through the orifice chamber and enters into the upper operating chamber, raising the float of the operating valve which rolls the sealing mechanism to its sealed position. Pressure develops inside the upper operating chamber, bringing about a controlled lowering and sealing of the rolling diaphragm sealing assembly, which, in turn, closes the lower chamber large orifice.

NOTE: It is recommended to attach a drainage pipe to the external threads on the large orifice outlet as some water will be expelled from the orifice during this closure stage. The size of the drainage pipe should be, at a minimum, the diameter of the outlet and the unattached end should remain open to the atmosphere.

At this stage, only the automatic air release component continues to work and releases air through its small orifice.

With a reduction in line pressure, during drainage or shut-off, the pressure in the valve is reduced and is less than the outside atmospheric pressure. The vacuum created will cause the rolling diaphragm sealing

assembly to rise up into its open position, opening the lower chamber large orifice and allowing the intake of air from the atmosphere into the system.

Main Features

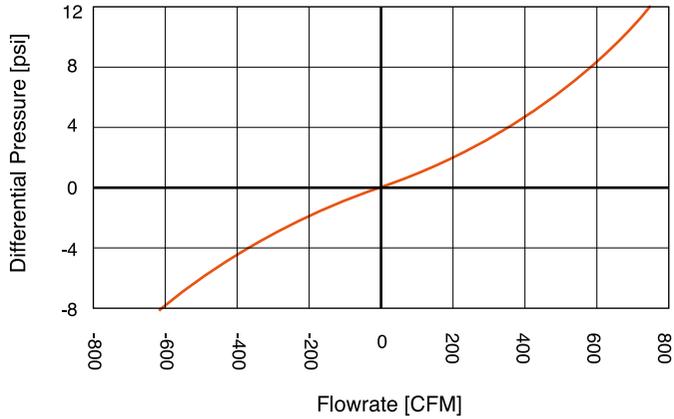
- Working pressure: 3 -150 PSI.
- Maximum working temperature: 140° F.
- Maximum intermittent temperature: 194° F.
- Valve body and interior components are made from composite materials and are corrosion-resistant.
- Prevents slam and reduces water surges in the air valve and the pipeline.
- Prevents the intrusion of debris and contaminants into the system.
- Valve is lightweight and small for easy installation; its operation simple and reliable.
- Built-in connection at the outlet for surplus water drainage.
- Smooth and gradual closing unaffected by water flow.
- Extremely quiet closing.
- Automatic air release component releases large quantities of air without becoming obstructed.

Valve Selection

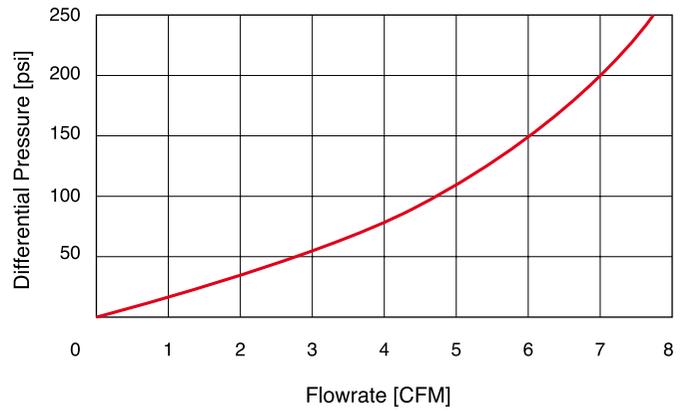
- Sizes: 2", 3", threaded or flanged
- The valve body is also available in Sphero Nodular ASTM A-536-60-4018, in sizes 3", 4", 6", 8" (Model D-070) in a wide range of flange standards.
- **Optional:** One-way D-070 P-I or D-070-I valve intakes air only, without allowing air discharge.
- When ordering, we recommend that the composition of liquids and system requirements be defined in advance.

When ordering, please indicate the required model, dimensions, working pressure and thread/flange standard.

AIR & VACUUM FLOWRATE



AIR RELEASE FLOWRATE

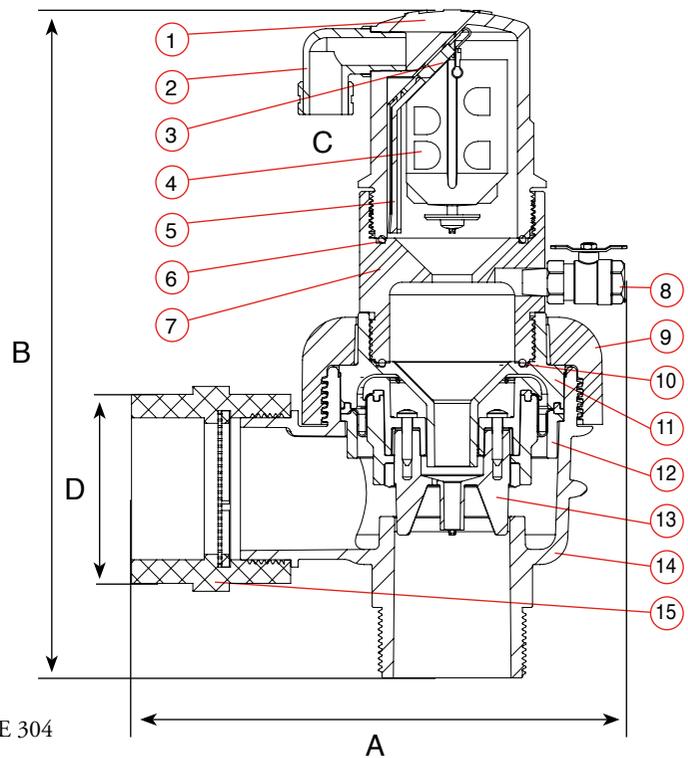


DIMENSIONS AND WEIGHTS

Size	Dimensions Inch		Connections		Weight Lbs.	Orifice Area Sq.in	
	A	B	C	D		A / V	Air Release
2" threaded	7.7	10.4	3/8" NPT	2" NPT	4.45	3.038	0.012
2" flanged	8.3	10.4	3/8" NPT	2" NPT	5.34	3.038	0.012

PARTS LIST AND SPECIFICATION FOR 2"

No. Part	Material
1. Operating Valve	Reinforced Nylon
2. Discharge Outlet	Polypropylene
3. Rolling Seal	E.P.D.M.
4. Operating Assembly	Foamed PP + St.St. SAE 304
5. Clamping Stem	Reinforced Nylon
6. O-Ring	BUNA-N
7. Flushing Adaptor	Acetal
8. Test Cock	brass chrome plated
9. Lokcing Ring	Reinforced Nylon
10. O-Ring	BUNA-N
11. Base Adaptor	Reinforced Nylon
12. Supporting Ring	Reinforced Nylon
13. Rolling Diaphragm Sealing Assy.	Reinforced Nylon + E.D.P.M. + St.St. SAE 304 + Fabric
14. Body	Reinforced Nylon
15. Bug Screen Assembly	Polypropylene + Acetal + St.St. SAE 304



DIMENSIONS AND WEIGHTS

Size	Dimensions Inch		Connections		Weight Lbs.	Orifice Area Sq.in	
	A	B	C	D		A / V	Air Release
3" threaded	7.7	10.4	3/8" NPT	2" NPT	4.53	3.038	0.012
3" flanged	9.0	10.8	3/8" NPT	2" NPT	5.87	3.038	0.012

PARTS LIST AND SPECIFICATION FOR 3"

No. Part	Material
1. Operating Valve	Reinforced Nylon
2. Discharge Outlet	Polypropylene
3. Rolling Seal	E.P.D.M.
4. Operating Assembly	Foamed PP + St.St. SAE 304
5. Clamping Stem	Reinforced Nylon
6. O-Ring	BUNA-N
7. Flushing Adaptor	Acetal
8. Test Cock	brass chrome plated
9. Locking Ring	Reinforced Nylon
10. O-Ring	BUNA-N
11. Base Adaptor	Reinforced Nylon
12. Supporting Ring	Reinforced Nylon
13. Rolling Diaphragm Sealing Assy.	Reinforced Nylon + E.D.P.M. + St.St. SAE 304 + Fabric
14. Body	Reinforced Nylon
15. Bug Screen Assembly	Polypropylene + Acetal + St.St. SAE 304

