



# D-070



## Dynamic Air Valve

### Description

The D-070 Combination Dynamic Air Valve is a unique valve operating without a float, utilizing the rolling diaphragm principle. This unique structure allows the dynamic valves to discharge air from the water system in a controlled and gradual manner, preventing slam and local up-surges. When vacuum occurs, the valves fast reaction will draw in large volumes of air into the water system, impeding down-surges and, consequently, all pressure surges in the line. The valves are normally closed when the line is not operating, thus preventing the infiltration of foreign particles and insects into the water system.

### Applications

- Pumping stations, deep wells, and distribution lines.
- Systems that suffer from slam and local and system surges.
- Sites that require a combination of means to reduce water hammer or surges.
- Sites that require an air valve with a low profile due to lack of space.

### Operation

When the pipeline system begins to fill with water, air becomes compressed in the line and flows into the air valves, raising their sealing assemblies to their open position. Air is then released through an automatic kinetic nozzle. When the water reaches the air valve, it fills the kinetic chamber, where some of it outflows through the kinetic nozzle, and some of it enters into the seal operating chamber, causing it to close. Pressure develops in the operating chamber, bringing about a controlled lowering of the sealing assembly, until the kinetic nozzle is completely closed. At this stage, the automatic small orifice air release valve continues to work, releasing air through its nozzle.

With a reduction in pressure in the line during drainage or shut-off, the force is reduced on the kinetic sealing assembly and it rises and opens the kinetic nozzle, drawing in air from the atmosphere into the system.

### Main Features

- Working pressure range: 3- 250 psi.
- Testing pressure: 360 psi.
- Working Temperature: 140° f.
- Maximum working temperature for short time period: 194° f.
- Light weight and small with simple and reliable operation.
- Interior components are corrosion-resistant.
- The valve body is coated with oven-baked epoxy coating.
- The automatic valve releases large quantities of water without becoming obstructed.
- Built-in connection for surplus water drainage at the outlet.
- Extremely quiet closing.
- Prevents slam and causes a reduction of water surges in the air valve and the line.
- Prevents the intrusion of debris and contaminants into the system.
- Smooth and gradual closing unaffected by water flow.

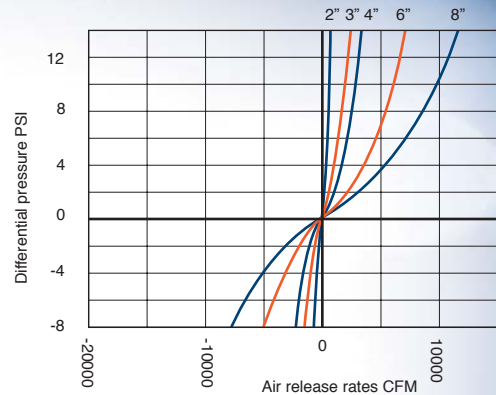
### Valve Selection

- These valves are manufactures with flanged ends to meet ASA 150 standard or any requested standard. The 2" valve is also available with NPT male threads.
- (2" reinforced nylon model is now under development – for additional information, contact the Marketing Department).
- The valve can be obtained with FBE and other custom coating.
- Can be provided with flanged in ANSI standard.
- The one-way D-070-I valve can be obtained that allows air only, without releasing gases into the atmosphere.
- The one-way D-070-V valve can be obtained releasing air only, without allowing air intake.
- For best fit, it is recommended that the composition of liquids and system requirements be defined in advance.
- For selecting the correct valve and its location, use the recommendations sheet and check with the Marketing Department.
- When ordering, please indicate the model, dimensions, working pressure, threading/flange standard and special coatings.

### DIMENSIONS AND WEIGHT

Nominal Size	Dimensions				Weight Lbs	Orifice Area Sq.in	
	A	B	internal C	external		Air & Vacu.	Auto.
2"	6.53	7.48	3/8	0.86	3.1	3.038	0.155
3"	9.17	11.41	3/8	0.86	30.9	7.796	0.155
4"	9.84	12.24	3/8	0.86	46.3	12.167	0.155
6"	14.88	15.43	1 1/2	2.16	86.0	27.376	1.246
8"	16.11	17.87	1 1/2	2.16	153.2	48.670	1.246

### AIR RELEASE FLOWRATE



### PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Operating Valve Body	Reinforced Nylon
2.	Drainage Elbow	Polypropylene
3.	Rolling Seal	2" 3" 4" E.P.D.M. Rubber
	Sealing Assembly	6" 8" E.P.D.M. Rubber + Reinforced Nylon+ St.St. 316
4.	Operating Assembly	Elastomer + St.St. 316
5.	Clamping Stem	Reinforced Nylon
6.	O-ring seal	BUNA-N
7.	Bolt and nut	Steel Zinc Cobalt Coated
8.	Cover	Sphero Nodular ASTM A-536-60-40-18
9.	Kinetic Sealing Assembly	Reinforced Nylon + E.D.P.M. Rubber + SAE 304 St.St. + Natural Rubber
10.	Nozzle	Bronze
11.	Body	3" 4" 6" 8" Sphero Nodular ASTM A-536-60-40-18 2" Reinforced Nylon

### AUTOMATIC AIR RELEASE

