



# D-070-P PN 10



## 2" & 3" Dynamic Air Valve **PATENTED**

### Description

The D-070-P combination dynamic 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 intake large volumes of air into the water system, thus impeding down-surges and, consequently, all pressure surges in the line. The kinetic air & vacuum component of the dynamic air valve is normally closed when the line is not operating, thus preventing the infiltration of foreign particles 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 large orifice sealing assembly to the open position. Air is then discharged, mainly out through the lower chamber large orifice as well as small amounts of air released out through upper chamber pilot 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 pilot 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 large orifice sealing assembly, which, in turn, closes the lower chamber large orifice.

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 large orifice 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: 0.2 to 10 bars.
- Working Temperature: 60° C
- Maximum instantaneous working temperature: 90° C
- Valve body and interior components are made from composite materials and are corrosion-resistant.
- Prevents slam and causes a reduction of water surges in the air valve and the pipeline.
- Prevents the intrusion of debris and contaminants into the system.
- Light weight and small for simple and reliable operation.
- Built-in connection for surplus water drainage at the outlet.
- 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

- The valve is manufactured in sizes 2" & 3", threaded or flanged.
- The valve is also available in Sphero Nodular ASTM A-536-60-40-18 castings in sizes 3", 4", 6", 8" in a wide range of flange standards including: BS, NPT, ANSI, DIN, JIS.

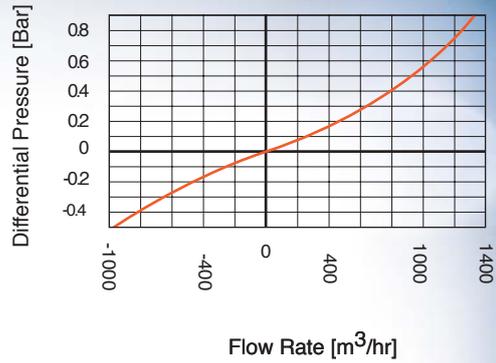
- The one-way D-070-P-I valve is available with a feature that allows air intake only, without releasing air into the atmosphere.

- 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.

## DIMENSIONS AND WEIGHTS

Nominal Size	Dimensions mm			Weight Kg.	Orifice Area mm <sup>2</sup>	
	A	B	C		Auto.	Kin.
2" (50 mm)	144	216	3/8" BSP	1.040	7.8	1963
3" (80 mm)	144	217	3/8" BSP	1.075	7.8	1963

## AIR AND VACUUM FLOW RATE



## PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Drainage Elbow	Polypropylene
2.	Operating Valve Body	Reinforced Nylon
3.	Rolling Seal	E.P.D.M.
4.	Float Assembly	Foamed PP+ Acetal + St.St.
5.	Clamping Stem	Reinforced Nylon
6.	O-Ring	BUNA-N
7.	Locking Ring	Reinforced Nylon
8.	Base Adaptor	Reinforced Nylon
9.	Supporting Ring	Reinforced Nylon
10.	Piston Assembly	Reinforced Nylon + E.D.P.M. + St.St.
11.	Body	Reinforced Nylon

## AUTOMATIC AIR DISCHARGE

