



D-070 PN 16



Dynamic Air Valve **PATENTED**

Description

The D-070 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 very 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

- 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 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 range: 2-16 bar.
- Testing pressure: 25 bar.
- Working Temperature: 60^o C.
- Maximum short-term temperature: 90^o C.
- 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

- The valve is manufactured in dimensions of 3" with threading/flange (optional) and 4" 6" 8" with flange.
- D-070 P - Available in 2", 3", 4" made of reinforced nylon, suitable for agricultural installations. Working pressure: 0.2 through 10 bar.
- The valve can be obtained with FBE and other custom coating.
- Can be provided with flanged in BS, ANSI, DIN, GIS standards.
- 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.

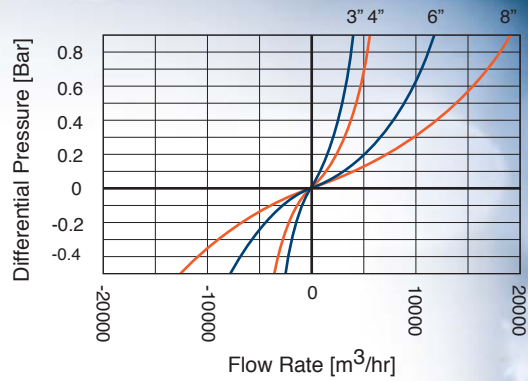
DIMENSIONS AND WEIGHTS

Nominal Size	Dimensions mm			Weight Kg.	Orifice Area mm ²	
	A	B	C		Auto.	Kin.
3" (80 mm)	233	290	3/8" BSP	14	7.8	5153
4" (100 mm)	250	311	3/8" BSP	21	7.8	7850
6" (150 mm)	378	392	1 1/2" BSP	39	12	17553
8" (200 mm)	410	454	1 1/2" BSP	69.5	12	31400

PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Operating Valve Body	Reinforced Nylon
2.	Drainage Elbow	Polypropylene
3.	Rolling Seal	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

AIR AND VACUUM FLOW RATE



AUTOMATIC AIR DISCHARGE

