

Air/Vacuum Valve

Model K10

BERMAD K10 is a high quality Air/Vacuum valve for a variety of irrigation networks and operating conditions. It evacuates air during pipeline filling and enables large air volume intake in the event of network draining.

With its advanced aerodynamic design and kinetic orifice, this valve provides excellent protection against vacuum formation with improved sealing under low pressure conditions.



3/4", 1"-K10

2"-K10

Typical Applications

- Main Irrigation Networks – Air relief and vacuum prevention downstream of pumps, along supply lines and at elevations in main irrigation networks.
- Irrigation Control Heads – Air relief and vacuum prevention at filtration and fertilization stations.
- Infield Systems – Prevention of vacuum formation.
- Landscape Irrigation – Prevention of vacuum formation.

Features & Benefits

- Straight flow body with large diameter kinetic orifice – High flow rates.
- Aerodynamic full-body kinetic shield – Prevents premature closing without disturbing air intake or discharge.
- Dynamic sealing – Prevents leakage under low pressure conditions (1.5 PSI).
- The boss on the base can be tapped with a thread for pressure gauge connection, check point or test drain for air valve function.
- Compact, simple and reliable structure whose parts are fully corrosion, chemical and fertilizer resistant – Lower maintenance and increased life span.
- Factory approval and Quality Control – Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

Principles of Operation

Pipeline filling:

During the filling process of a pipeline, high air flow is forced out through the kinetic orifice of the air valve. Once water enters the valve's chamber, the float buoyed upwards causes the kinetic orifice to close. The unique aerodynamic structure of the valve body and float ensures that the float cannot be closed before water reaches the valve.

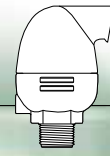
Pressurized Operation:

During pressurized operation the kinetic orifice remains closed.

Pipeline Draining:

When a pipeline is drained, a negative differential pressure is created causing atmospheric air to push the float down. The kinetic orifice stays open and air enters the valve chamber, preventing vacuum formation in the pipe.

BERMAD Irrigation



Model K10

Air Valves Series

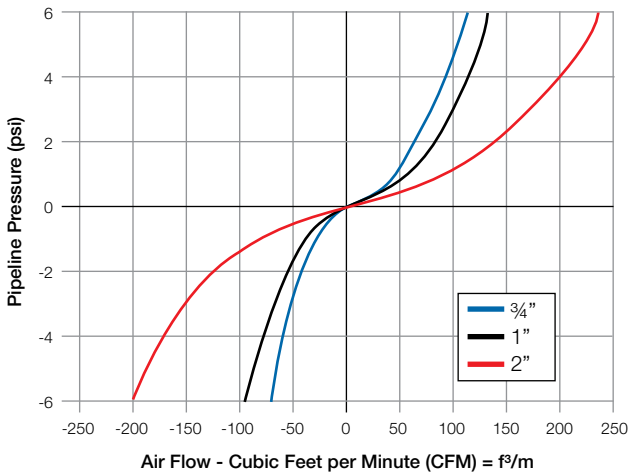
Valve Selection

- Body material: Glass-reinforced Nylon
- Inlet sizes: 3/4", 1", 2"
- Connections: Threaded male and female NPT
- Outlet: Sideways

Operational Data

- Pressure rating: ANSI/ASME 150
- Operating pressure range: 1.5-150 PSI
- Operating temperature: Water up to 140°F

Air Flow Performance Charts



Orifice Specifications

Size	Kinetic	
Inch	D [Inch]	Ad [Sq Inch]
3/4"	13/16	8/16
1"	13/16	8/16
2"	1 4/16	1 3/16

Dimensions & Weights

Size	Connection	Side Outlet		
Inch		D (Inch)	H (Inch)	Weight (lb)
3/4"	Threaded	3	4 5/16	0.4
1"	Threaded	3	4 5/16	0.4
2"	Threaded	3 11/16	5 1/8	0.6

Insect Screen

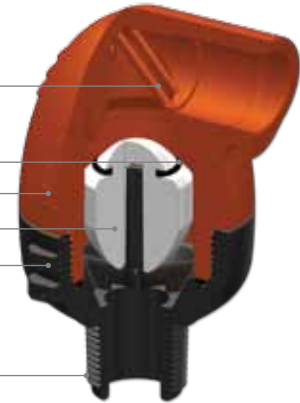
Dynamic Seal

Body

Float

Base

NPT
Male Threaded



3/4", 1"-K10

Insect Screen

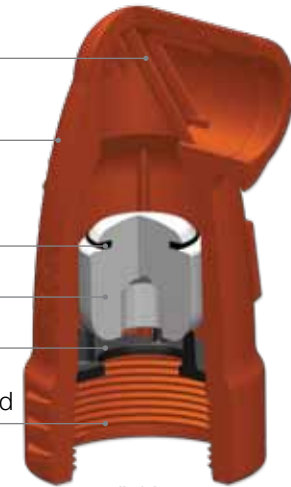
Body

Dynamic Seal

Float

Stopper Disc

NPT
Female Threaded



2"-K10

Parts List and Materials

3/4", 1" - K10

	Description	Material
1	Base NPT	Glass Reinforced Nylon
2	Body	Glass Reinforced Nylon
3	Float	Polypropylene
4	Seal	EPDM
5	O-Ring	EPDM

2" - K10

	Description	Material
1	Body NPT	Glass Reinforced Nylon
2	Stopper Disc	Glass Reinforced Nylon
3	Float	Polypropylene
4	Seal	EPDM



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