

Kinetic Air Valve

Model K10

BERMAD K10 is a high quality kinetic air valve for a variety of irrigation networks and operating conditions. It evacuates air during pipeline filling and enables large volume air 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 orifice – High flow rates.
- Aerodynamic full-body kinetic shield – Prevents premature closing without disturbing air intake or discharge.
- Dynamic sealing – Prevents leakage during operation even under low pressure conditions (0.1 bar).
- 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:

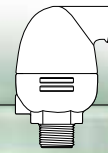
During the filling process of a pipeline, high air flow is forced out through the kinetic orifice of the air valve. Once water enters the valve's chamber, the float buoyed upwards causes the kinetic orifice to close. The unique aerodynamic structure of the valve body and float ensures that the float 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.



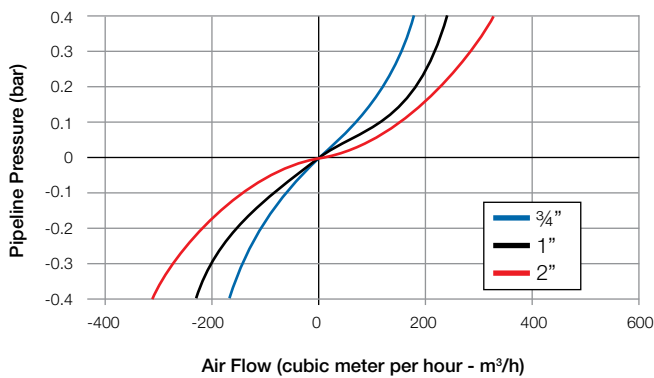
Valve Selection

- Body material: Glass-reinforced Nylon
- Inlet sizes: DN20 ,DN25, DN50 (¾", 1", 2")
- Connections: Threaded Male and Female BSPT
- Outlet: Sideways

Air Flow Performance Chart

Air Relief and Intake

(Pipeline Filling, Draining and Vacuum Conditions)



Orifice Specification

Size		Kinetic	
DN	Inch	d[mm]	Ad[mm²]
20	¾"	20.0	320
25	1"	20.0	320
50	2"	31.0	755

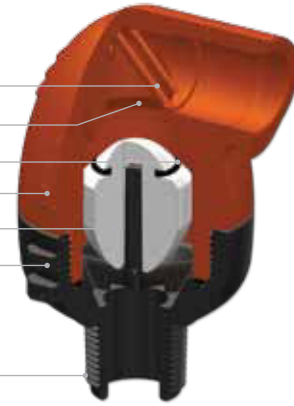
Dimensions & Weights

Size			Side Outlet		
DN	Inch	Connection	D (mm)	H (mm)	Weight (Kg)
20	¾"	Threaded	76	109	0.17
25	1"	Threaded	76	109	0.17
50	2"	Threaded	93	130	0.28

Operational Data

- Pressure rating: ISO PN10
- Operating pressure range: 0.1 - 10 bar
- Operating temperature: Water up to 60°C

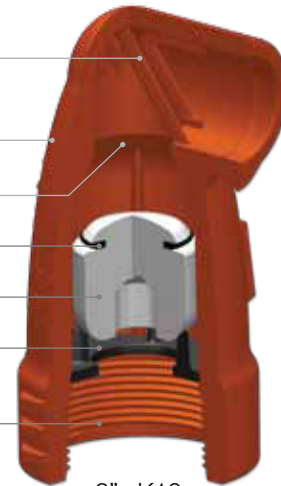
Insect Screen
Kinetic Orifice
Dynamic Seal
Body
Float
Base



BSPT Male Threaded

¾", 1" - K10

Insect Screen
Body
Kinetic Orifice
Dynamic Seal
Float
Stopper Disc
BSPT Female Threaded



2" - K10

Parts List and Materials

¾", 1"- K10

	Description	Material
1	Base-BSP/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 BSP/NPT	Glass Reinforced Nylon
2	Stopper Disc	Glass Reinforced Nylon
3	Float	Polypropylene
4	Seal	EPDM