



COMBINATION AIR VALVE

Model C10

BERMAD C10 is a high quality combination air valve for a variety of irrigation networks and operating conditions.

It evacuates air during pipeline filling, allows efficient release of air pockets from pressurized pipes, and enables large volume air intake in the event of network draining.

With its advanced aerodynamic design, double orifice and Surge Protection device (optional), this valve provides excellent protection against air accumulation and vacuum formation, with improved sealing in low pressure conditions.

Specifically designed for irrigation applications.



Features & Benefits

- Straight flow body with large diameter automatic orifice: Higher than usual 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; 0.1 bar).
- Compact, simple and reliable structure whose parts are fully corrosion, chemical and fertilizer resistant: Lower maintenance and increased life span.
- Design in compliance with functional standards.
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.
- Field proven designed for use in irrigation applications with water quality such as river water, channel water, dam water or treated effluent with high reliability.

Additional Features & Accessories

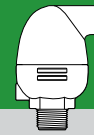
- Surge Protection (code SP) device: Smoother operation, preventing damage to the valve and the system.
- Inflow Prevention (code IP) device: Prevents intake of atmospheric air in cases where this could lead to damaged pumps, required re-priming, or disruption of siphons.
- Assisted Closing - the kinetic orifice is set to be partially closed (code AC) for controlled slow air relief, subsequently avoiding the possibility of surge event during pipeline filling or column separation.
- Service Ports fitted: 1/8"; DN3 or 1/4"; DN6 plug (code P) for pressure gauge connection, check point or test drain for air valve function.
- 90 degrees elbow: snapped to the outlet, only for inlet sizes 3/4-1"; DN20-25.
- Addition of Female Thread 3/4"; DN20 (code 077, 017) to the outlet, only for inlet sizes 3/4-1"; DN20-25.
- Extension with downwards outlet, only for inlet sizes 2-3"; DN50-80.

All images in this catalog are for illustration only



Typical Applications

- Main Irrigation Networks: Protection against air accumulation and vacuum formation downstream of pumps, along supply lines and at elevations in main irrigation networks.
- Irrigation Control Heads: Protection against air accumulation and vacuum formation at filtration and fertilization stations and downstream of main control valves.
- Infield Systems: Protection against air accumulation and vacuum formation in proximity to water meters and automatic regulators.
- Landscape Irrigation: Protection against air accumulation and vacuum formation.
- Pumping stations: Maximising pumping efficiency, priming capabilities and reducing the possibility of pressure surges during power failure modes.



Valve selection

| | ¾"-1"; DN20-25 | 2"; DN50 | 3"; DN80 |
|-------------------------------------|---|--|---------------------|
| Inlet connection type | Threaded (male) | Threaded (male), flanged (universal) | Flanged (universal) |
| Outlet | Side (unthreaded) | Side (2"; DN50 female threaded) | |
| Optional additional Features | ¾" threaded female outlet | SP, IP, AC | |
| Optional Accessories | 90-degree elbow (snapped), service port, test point | 90-degree elbow (threaded), service port, test point | |

Materials

- Body: Glass-reinforced Nylon
- Float Assembly: Polypropylene, Glass Reinforced Nylon.
- Elastomers: EPDM, Optional - Viton

Operational Data

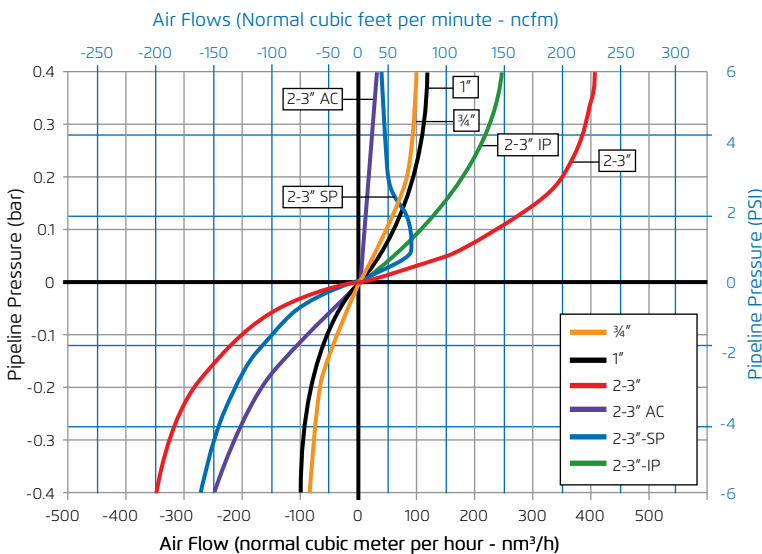
- Pressure Rating: 175 psi; ISO PN10 or ISO PN12
- Minimum operating pressure: 1.5 psi; 0.1 bar
- Maximum operating pressure: 150 psi; 10 bar, 175 psi; 12 bar
- Media and operating temperature: Water, 33-140°F; 1-60°C

Orifice Specifications

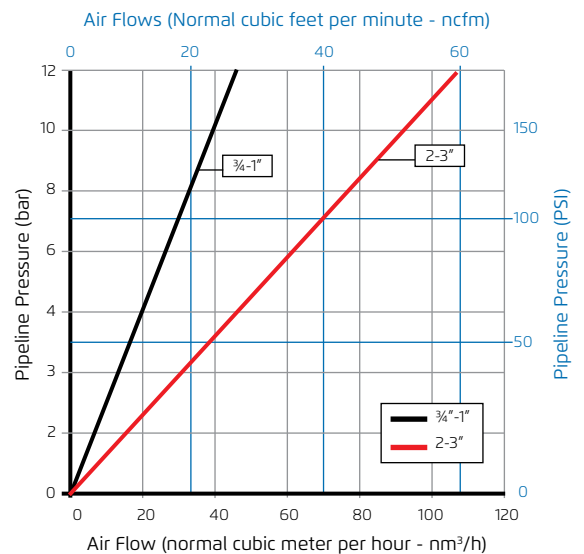
| Inlet Sizes | Automatic Orifice | | Kinetic Orifice | | Surge Protection / Assisted Closing | | |
|-------------|-------------------|----------|-----------------|-----------------|-------------------------------------|------------|--|
| | Area | Diameter | Area | Number of holes | Hole Diameter | Total Area | |
| Sq Inch | Sq inch | inch | Sq inch | — | inch | Sq inch | |
| mm | Sq mm | mm | Sq mm | | mm | Sq mm | |
| ¾" - 1" | 0.008 | 0.795 | 0.497 | — | — | — | |
| DN20 - 25 | 5.4 | 20.2 | 320 | | — | — | |
| 2" - 3" | 0.019 | 1.772 | 2.465 | 4 | 0.157 | 0.078 | |
| DN50 - 80 | 12.2 | 45.0 | 1,590 | | 4 | 50 | |

Air Flow Performance Charts

Air Relief and Intake (Pipeline Filling, Draining and Vacuum Conditions)



Air Release (Pressurized Operation)

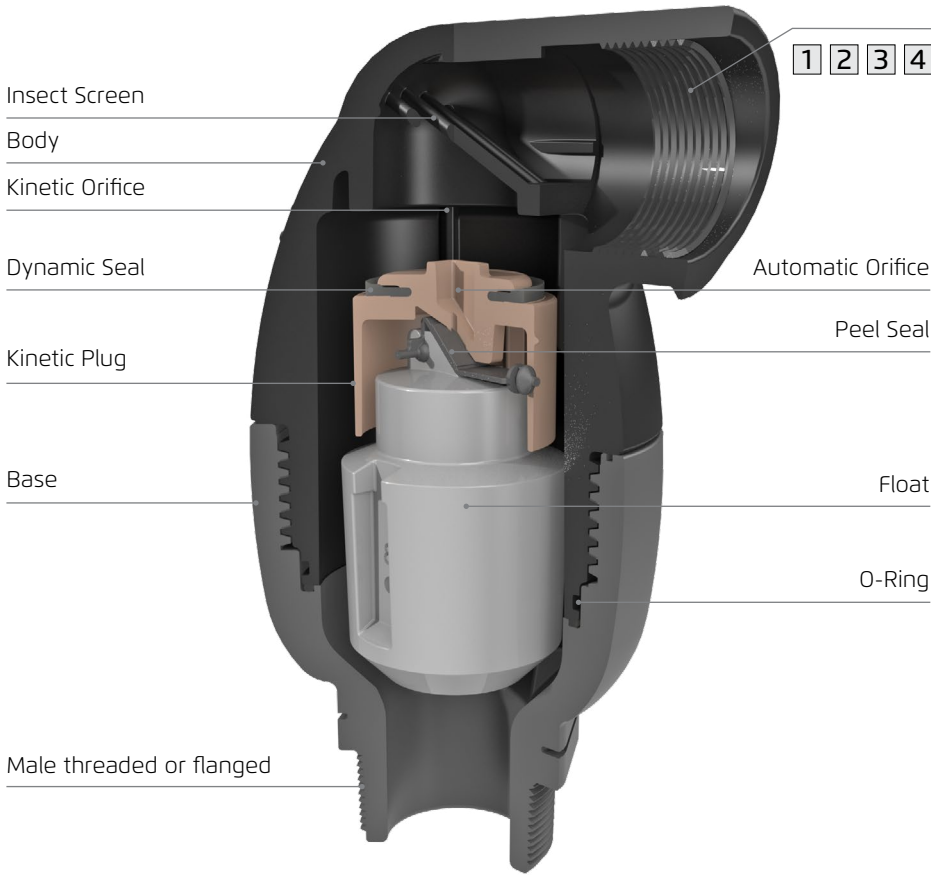


Air relief and intake charts are based on actual measurements, measured in Bermad Air Flow test bench, according to EN-1074/4 standard and refer to Side outlet. Use Bermad Air software for optimized Sizing & Positioning of Air Valves.



Cutaway

Female Threaded (only for inlet sizes 2-3"; DN50-80) for retrofitting Surge Protection (code SP), Assisted Closing (code AC) or Inflow Prevention (code IP) devices or drain lines.



Insect Screen

Body

Kinetic Orifice

Dynamic Seal

Kinetic Plug

Base

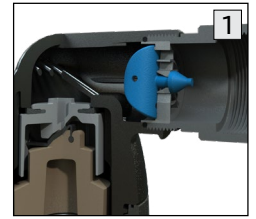
Automatic Orifice

Peel Seal

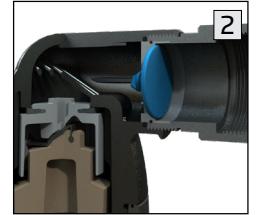
Float

O-Ring

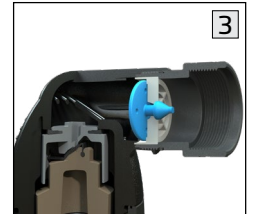
Male threaded or flanged



Surge Protection (code C10-SP), only for inlet sizes 2-3"; DN50-80



Inflow Prevention (code C10-IP), only for inlet sizes 2-3"; DN50-80



Assisted Closing (code AC), only for inlet sizes 2-3"; DN50-80



Extension with downwards outlet, only for inlet sizes 2-3"; DN50-80

Dimensions & Weights



| Inlet Size | Connection | Width (D) | Height (H) | Weight |
|------------|------------|-----------|------------|--------|
| inch | — | inch | inch | lbs |
| mm | | mm | mm | Kg |
| ¾" | Threaded | 3.819 | 6.299 | 1.10 |
| DN20 | | 97 | 160 | 0.5 |
| 1" | Threaded | 3.819 | 6.299 | 1.10 |
| DN25 | | 97 | 160 | 0.5 |
| 2" | Threaded | 5.630 | 9.449 | 3.31 |
| DN50 | | 143 | 240 | 1.5 |
| 2" | Flanged | 6.496 | 9.449 | 4.30 |
| DN50 | | 165 | 240 | 1.95 |
| 3" | Flanged | 7.874 | 9.961 | 6.83 |
| DN80 | | 200 | 253 | 3.1 |

