COMBINATION AIR VALVE FOR SEWAGE & WASTEWATER, DUCTILE IRON WITH SURGE PROTECTION

PN16 / 230 PSI

Model C50-SP-C



BERMAD C50 is a high quality combination air valve for a variety of sewage and wastewater networks and operating conditions. It evacuates air during pipeline filling, allows efficient release of air and gas 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, this valve provides excellent protection against air and gas accumulation and vacuum formation with improved sealing under low pressure conditions.

Features & Benefits

- Straight flow body: Higher than usual flow rates.
- Elongated body design: Prevents solids from making contact with valve's operating parts.
- Surge Protection: the kinetic orifice is partially closed during the second stage of the air relief, preventing damage to the air valve and the system and increasing the operational time without maintenance.
- Dynamic Sealing: Prevents leakage under low pressure conditions (0.8 psi; 0.05 bar).
- Two service ports: Upper 3/4"; DN20 BSPT and lower 1"; DN25 BSPT, enabling back flushing and drainage.
- Compact and simple structure with fully corrosion resistant internal parts: Lower maintenance and increased life span.
- Certified to functional standards: SAI AS4883 (Australia), WSAA (Australia).
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

Typical Applications

- Pumping stations: Air relief, surge protection and vacuum prevention.
- Non clean water pipelines: Protection against air and gas accumulation and vacuum formation at elevations, slope change points and at road/river crossings.
- Wastewater treatment plants: Air relief, protection against air and gas accumulation and vacuum formation.

Additional Features & Accessories

- Assisted Closing (code AC): the kinetic orifice is set to be partially closed during air relief.
- Drainage Valve (code Z): 1"; DN25 female threaded BSP.

All images in this catalog are for illustration only

Inlet and Outlet Connections

- Inlets: Male threaded 2"; DN50, flanged 2-4"; DN50-100
- Outlets: Sideways, female threaded 2"; DN50
  - Optional addition of extension with 90 degrees elbow

Operational Data

- Pressure Rating: ISO PN16
- Minimum operating pressure: 0.05 bar
- Maximum operating pressure: 16 bar
- Media and operating temperature: Non clean water, 1-60°C

Materials

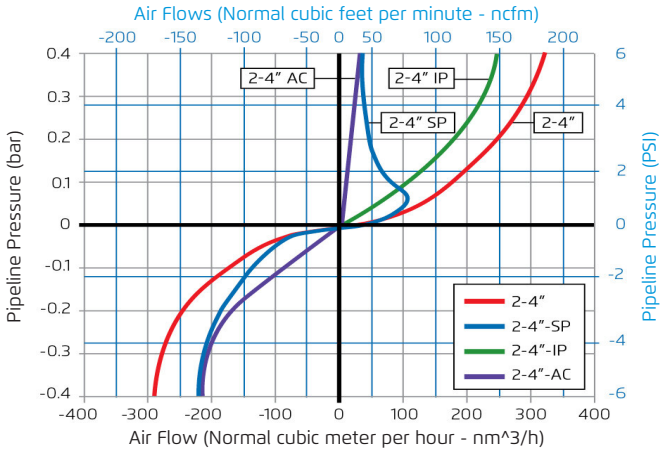
- Body: Ductile Iron
- Coating: Fusion Bonded Epoxy
- Upper Float Assembly: Polypropylene, Glass-Reinforced Nylon
- Lower Float Assembly: Polypropylene. Optional – Stainless Steel 316
- Float Rod: Stainless Steel 316
- Elastomers: EPDM, NBR. Optional – Viton
- Plugs for service ports: Polypropylene

Orifice Specifications

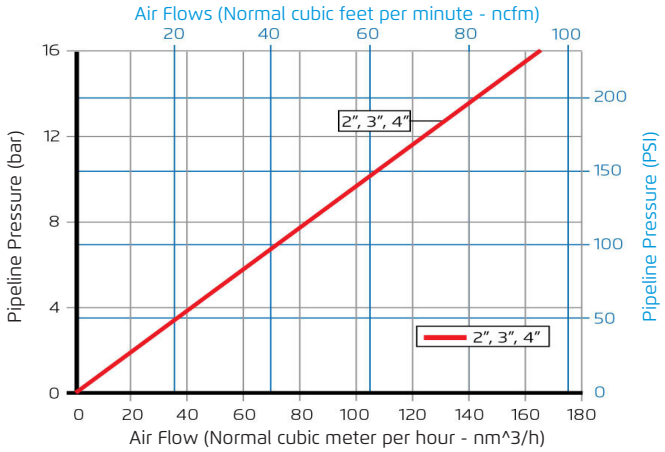
Inlet Sizes	Automatic Orifice	Kinetic Orifice		Surge Protection / Assisted Closing		
	Area	Diameter	Area	Number of holes	Hole Diameter	Total Area
Inch; mm	Sq mm	mm	Sq mm	--	mm	Sq mm
2"-4"; DN50-100	12.2	45.0	1,590	4	4	50

Air Flow Performance Charts

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



Air Release (Pressurized Operation)



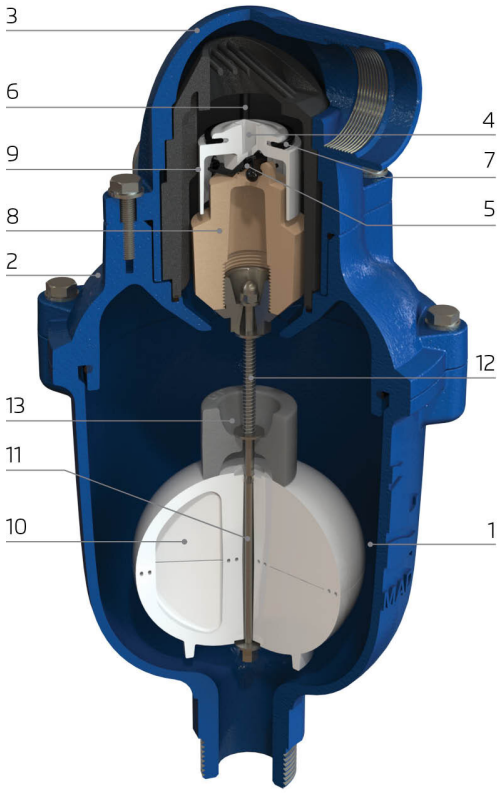
- For higher automatic air release capacity, Please consult with BERMAD.
- Air relief and intake charts are based on actual measurements, measured in Bermad Air Flow test bench, according to EN-1074/4 and AS4883 standard and refer to side outlet. Use Bermad Air software for optimized Sizing & Positioning of Air Valves.

Data for C50-SP-C with Surge Protection Feature

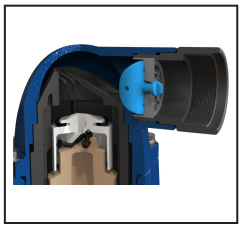
Inlet Sizes	C50-SP Switching Value	C50-SP Air relief at 0.4 bar	C50-AC Air relief at 0.4 bar
	Side Outlet	Side Outlet	Side Outlet
Inch; mm	bar	nm^3/h	nm^3/h
2"-4"; DN50-100	0.06	38	38

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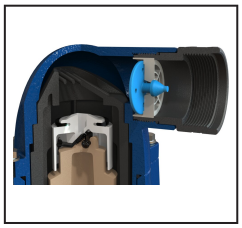
Cutaway



[1] Body
[2] Neck
[3] Cover
[4] Auto Orifice
[5] Auto Orifice Seal
[6] Kinetic Orifice
[7] Kinetic Orifice Seal
[8] Upper Float
[9] Kinetic Plug
[10] Lower Float
[11] Float Rod
[12] Spring
[13] Shock Absorber
[14] Insect Screen



Surge Protection
(code C50-SP)

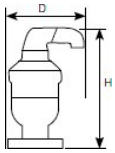


Assisted Closing
(code C50-AC)



Extension with
downwards outlet

Dimensions & Weights





Inlet Sizes	Connection	Ductile Iron (C50-C) Width (D)	Height (H)	Weight
in; mm		mm	mm	Kg
2"; DN50	Threaded	272	490	20.5
2"; DN50	Flanged	272	501	22.3
3"; DN80	Flanged	272	490	23.8
4"; DN100	Flanged	272	490	25.0

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