



# NON CLEAN, SEWAGE & WASTEWATER COMBINATION AIR VALVE

## Model C50

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.

The elongated body and lower float prevent the fluid to be in contact with the upper mechanism.

With its advanced aerodynamic design, double orifice and Surge Protection device (optional), 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 with large diameter automatic orifice: Higher than usual air flow.
- Aerodynamic, full-body kinetic shield: Prevents premature closing without disturbing air intake or discharge.
- Dynamic Sealing: Prevents leakage under low pressure conditions (0.8 psi; 0.05 bar).
- Elongated body design: Prevents solids from making contact with valve's operating parts.
- Compact, simple and reliable structure with fully corrosion-resistant internal parts: Lower maintenance and increased life span.
- Two service ports: Enabling back flushing and drainage.
- Threaded Side outlet (2"; DN50) for connection of Surge Protection (SP) or Inflow prevention (IP) devices.
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

### Additional Features & Accessories

- Surge Protection (code SP): Smoother operation, preventing damage to the valve and the system.
- Inflow Prevention (code IP): Prevents intake of atmospheric air in cases where this could lead to damaged pumps, required re-priming, or disruption of siphon.
- Drainage Valve (code Z).

### Typical Applications

- Pumping stations: Air relief 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.



C50-P



C50-J



C50-C



C50-G



C50-N



### Inlet and Outlet Connections

- Inlets:
  - Glass-reinforced Nylon Body (C50-P): male threaded 2-3"; DN50-80, flanged 2-4"; DN50-100
  - Ductile Iron Body (C50-C, C50-J): male threaded 2"; DN50, flanged 2-3"; DN50-80
  - Stainless Steel Body (C50-G, C50-N): male threaded 2-3"; DN50-80, flanged 2-3"; DN50-80
- Outlets: Sideways, female threaded 2"; DN50

### Operational Data

- Pressure Rating: 150 psi; ISO PN10 (C50-P), 230 psi; ISO PN16 (C50-C, C50-J, C50-G, C50-N)
- Minimum operating pressure: 0.8 psi; 0.05 bar
- Maximum operating pressure: 150 psi; 10 bar (C50-P), 230 psi; 16 bar (C50-C, C50-J, C50-G, C50-N)
- Media and operating temperature: Water, 33-140°F; 1-60°C

### Materials

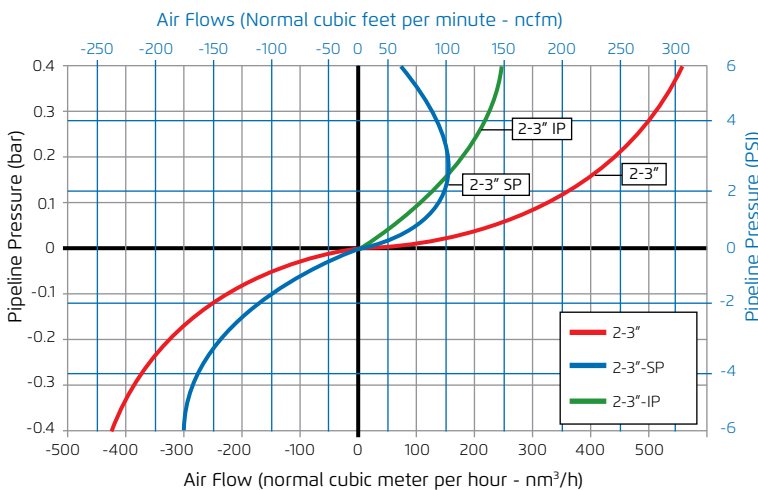
- Body, Neck and Cover:
  - Glass-Reinforced Nylon (C50-P)
  - Ductile Iron (C50-C)
  - Stainless Steel (C50-N)
- Ductile Iron body with Glass-reinforced Nylon neck and cover (C50-J)
- Stainless Steel body with Glass-reinforced Nylon neck and cover (C50-G)
- Upper Float Assembly: Polypropylene, Glass-Reinforced Nylon.
- Lower Float Assembly: Polypropylene, Optional – Stainless Steel.
- Float Rod: Stainless Steel
- Elastomers: EPDM, NBR. Optional – Viton.
- Coating of Ductile Iron: Fusion Bonded Epoxy

### Orifice Specifications

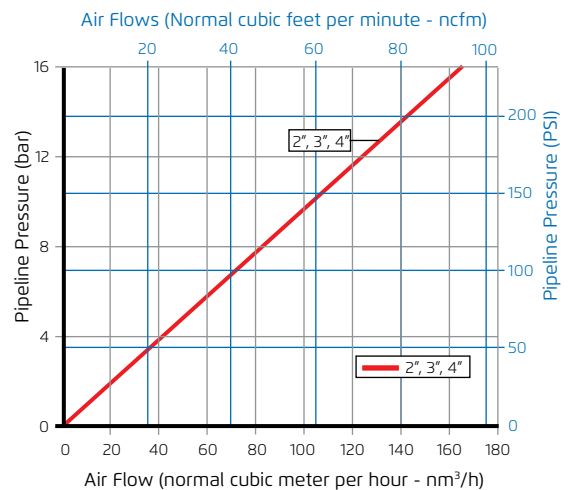
Inlet Sizes	Automatic Orifice	Kinetic Orifice		Surge Protection		
	Area	Diameter	Area	Number of holes	Hole Diameter	Total Area
Inch	Sq Inch	inch	Sq Inch	--	Inch	Sq Inch
mm	Sq mm	mm	Sq mm		mm	Sq mm
2"-4"	0.019	1.772	2.465	4	0.157	0.078
DN50-DN100	12.2	45.0	1,590		4	50

### Air Flow Performance Charts

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



**Air Release** (Pressurized Operation)



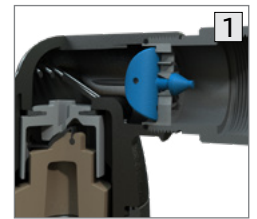
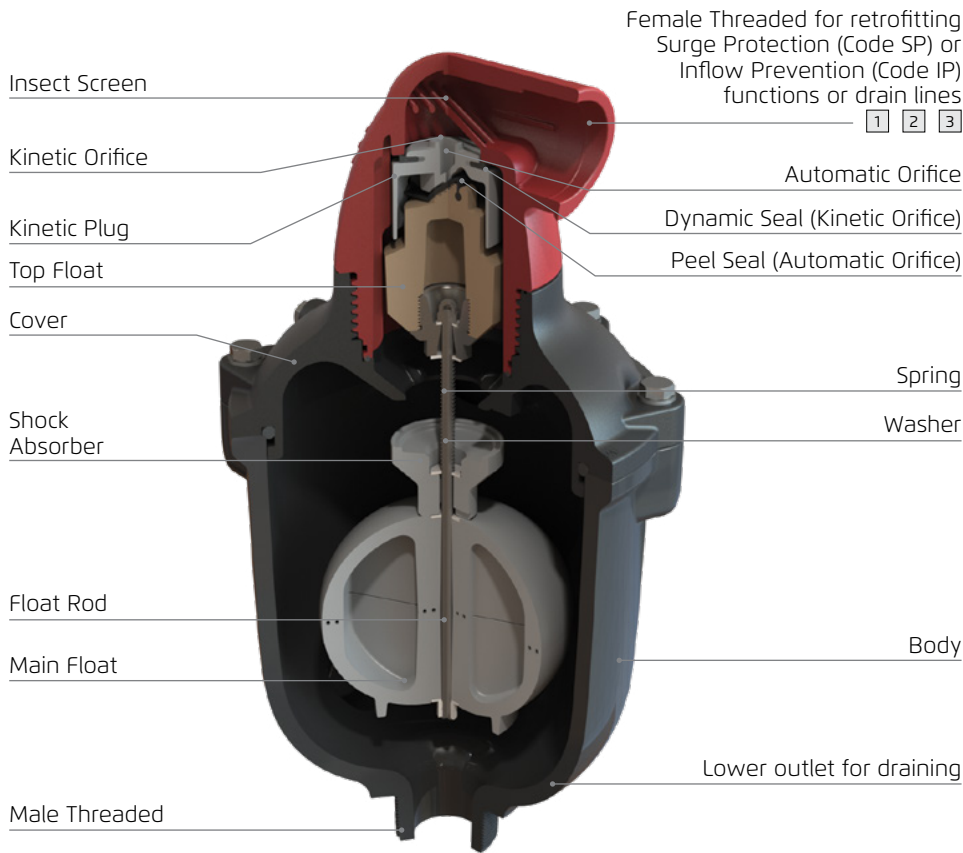
Air relief and intake charts are based on actual measurements, made in Bermad Air Flow test bench, according to EN-1074/4 standard and refer to Side outlet. Use Bermad Air software for optimized Sizing & Positioning of Air Valves.

All images in this catalog are for illustration only

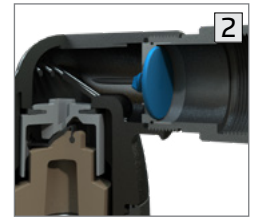


Model C50

### Cutaway - Glass-reinforced Nylon Body (C50-P)



Surge Protection (code C50-SP)

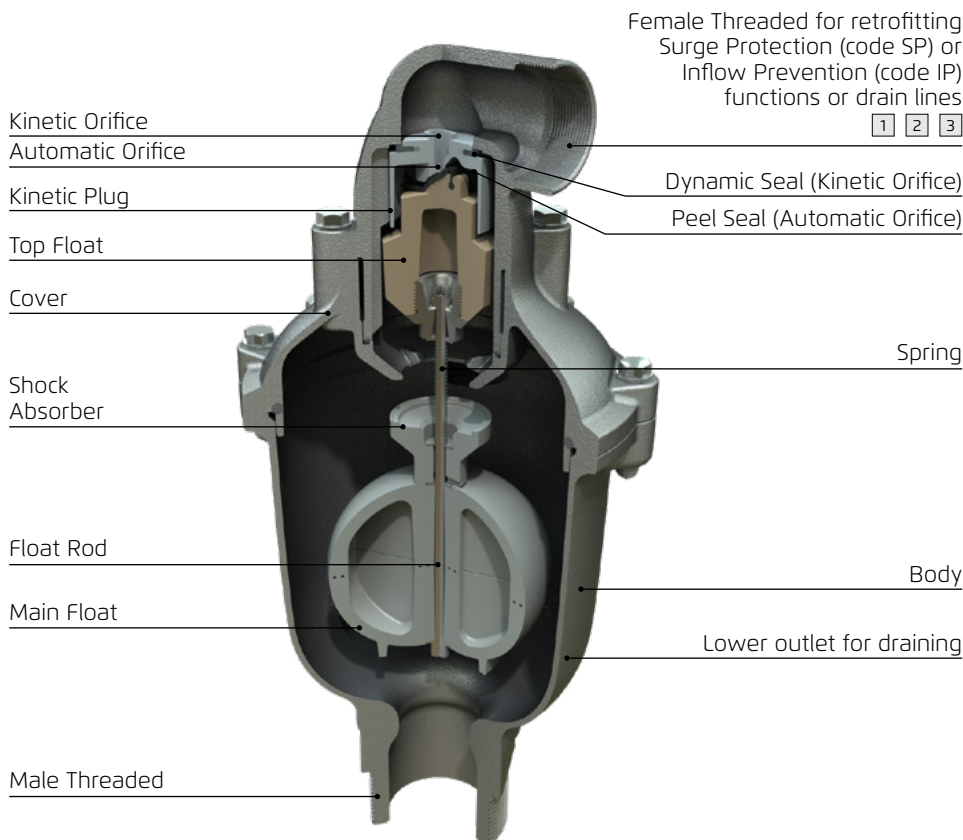


Inflow Prevention (code C50-IP)



Extension with downwards outlet

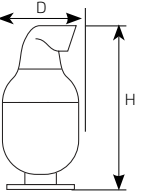


### Cutaway - Stainless Steel Body (C50-N)





Dimensions & Weights

										
		Glass Reinforced Nylon (C50-P)			Ductile Iron (C50-C)			Ductile Iron & Glass Reinforced Nylon (C50-J)		
Inlet Size	Connection	Width (D)	Height (H)	Weight	Width (D)	Height (H)	Weight	Width (D)	Height (H)	Weight
inch		inch	inch	lbs	inch	inch	lbs	inch	inch	lbs
mm		mm	mm	Kg	mm	mm	Kg	mm	mm	Kg
2"	Threaded	13.740	17.638	12.78	9.449	19.291	45.2	9.449	19.094	26.4
DN50		349	448	5.8	240	490	20.5	240	485	12.0
2"	Flanged	13.740	19.134	14.11	9.449	19.035	49.1	9.449	18.937	30.2
DN50		349	486	6.4	240	484	22.3	240	481	13.7
3"	Threaded	13.740	20.157	13.00	---	---	---	---	---	---
DN80		349	512	5.9	---	---	---	---	---	---
3"	Flanged	13.740	19.409	14.83	9.449	19.291	52.5	9.449	19.291	33.5
DN80		349	493	6.7	240	490	23.8	240	490	15.2
4"	Flanged	13.740	19.409	15.32	---	---	---	---	---	---
DN100		349	493	7.0	---	---	---	---	---	---

							
		Stainless Steel & Glass Reinforced Nylon (C50-G)			Stainless Steel (C50-N)		
Inlet Size	Connection	Width (D)	Height (H)	Weight	Width (D)	Height (H)	Weight
inch		inch	inch	lbs	inch	inch	lbs
mm		mm	mm	Kg	mm	mm	Kg
2"	Threaded	13.740	19.134	23.36	11.654	19.252	37.03
DN50		349	486	10.6	296	489	16.8
2"	Flanged	13.740	19.134	29.09	11.654	19.370	41.66
DN50		349	486	13.2	296	492	18.9
3"	Threaded	13.740	20.197	28.65	11.654	20.197	41.88
DN80		349	513	13.0	296	513	19.0
3"	Flanged	13.740	19.409	35.70	11.654	19.843	48.27
DN80		349	493	16.2	296	504	21.9
4"	Flanged	---	---	---	---	---	---
DN100		---	---	---	---	---	---

