COMBINATION AIR VALVE

Ductile Iron & Glass Reinforced Nylon, PN16 / 230 PSI

Model C73

BERMAD C73 is a high quality dual body combination air valve for a variety of water 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 and Surge Protection (Anti-slam / slow closing) device, this valve provides excellent protection against air accumulation, vacuum formation and pressure surges, with improved sealing in low pressure conditions.

C73 Side Outlet

C73 Down Outlet

Features & Benefits

- Straight flow body with nominal (equal) inlet and outlet size: Higher than usual flow rates.
- Dynamic Sealing: Prevents leakage under low pressure conditions (1.5 psi; 0.1 bar).
- Two optional outlets (sideways, downwards) that can swivel 360°: Easy to install in a variety of site conditions.
- Compact and simple structure with fully corrosion resistant internal parts: Lower maintenance and increased life span.
- Certified to functional standards: WRAS (UK), EN-1074-4 (Europe), AENOR (Spain), Singapore.
- Designed in compliance with AWWA C512 (USA).
- Certified to drinking water standards: WRAS (UK), ACS (France), NSF-ANSI-CAN 61 and NSF-ANSI 372 (USA), PUB SS 375 and SS 270 (Singapore).
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

Typical Applications

- Pumping stations and deep well pumps: Air relief, surge protection and vacuum prevention.
- Pipelines: Protection against air accumulation and vacuum formation at elevations, slope change points and road / river crossings.
- Water networks: Protection against vacuum formation, surge and water hammers at points likely to experience water column separation.

Additional Features & Accessories

- Surge Protection (code SP): the kinetic orifice is partially closed during the second stage of the air relief, preventing damage to the air valve and the system.
- Assisted Closing (code AC): the kinetic orifice is set to be partially closed during air relief.
- Service port (code P) fitted with ¼"; DN6 plug for pressure gauge connection, check point or test drain for air valve function.
- Drainage Valve (code Z).
- Insect Screen (code S).

Inlet and Outlet Connections

- Inlets: Female threaded 2"; DN50, flanged 2-10"; DN50-250
- Outlets (C70):
  - Downwards, 2-8", DN50-200 without a connection to drainage pipeline
  - Sideways, female threaded 2-3"; DN50-80, grooved 4-8", DN100-200. Optional addition of extension with 90 degrees for 2-3"; DN50-80

Materials

- Body: Ductile Iron (C70), Glass-Reinforced Nylon (A30)
- Coating: Fusion Bonded Epoxy
- Automatic Orifice: Stainless Steel (C70), Glass-Reinforced Nylon (A30)
- Float: Polypropylene, Glass-reinforced Nylon, PBT (C70), Polypropylene (A30)
- Elastomers: EPDM

Operational Data

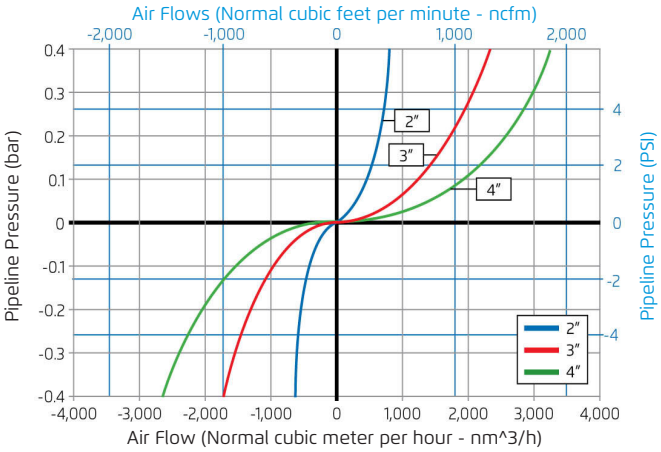
- Pressure Rating: ISO PN16
- Minimum operating pressure: 0.1 bar
- Maximum operating pressure: 16 bar
- Media and operating temperature: Water, 1-60°C

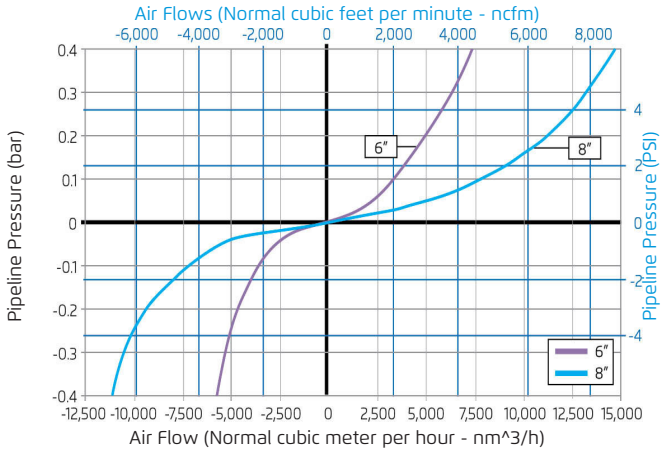
Orifice Specifications

Inlet Sizes	External Automatic Orifice Area (A30)	Internal Automatic Orifice Area (C70)	Kinetic Orifice		Surge Protection		
	PN16	PN16	Diameter	Area	Number of holes	Hole Diameter	Total Area
Inch; mm	Sq mm	Sq mm	Diameter	Area	--	mm	Sq mm
2"; DN50	9.6	1.1	50	1,936	4	5	79
3"; DN80	9.6	2.5	80	5,027	4	8	201
4"; DN100	9.6	3.1	100	7,854	4	10	314
6"; DN150	9.6	9.1	150	17,671	4	15	707
8"; DN200	9.6	22.1	200	31,416	4	20	1,257

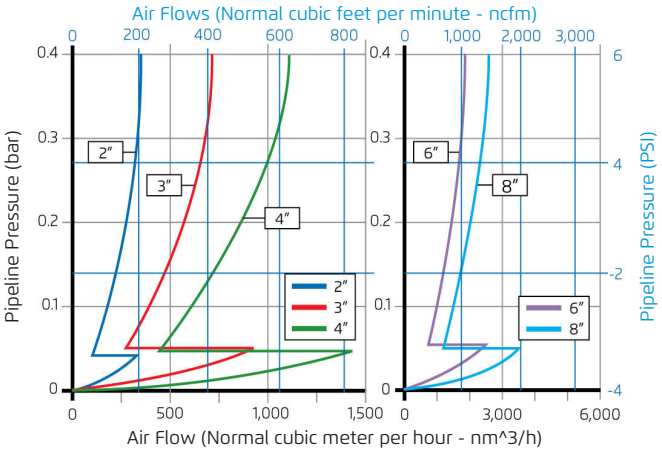
Air Flow Performance Charts

Air Relief and Intake - Down or Side outlet (Pipeline Filling, Draining and Vacuum Conditions)

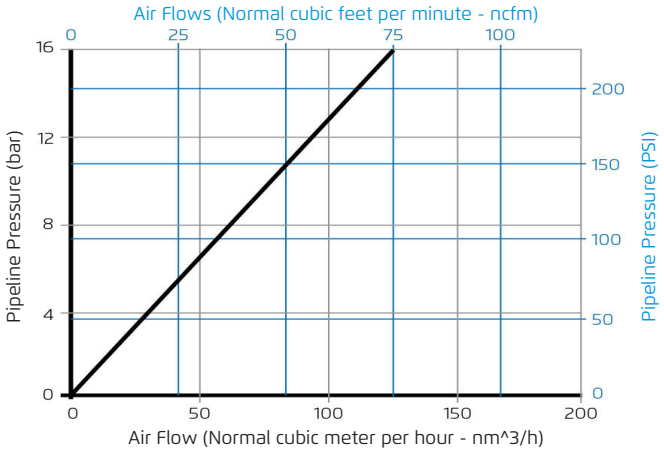




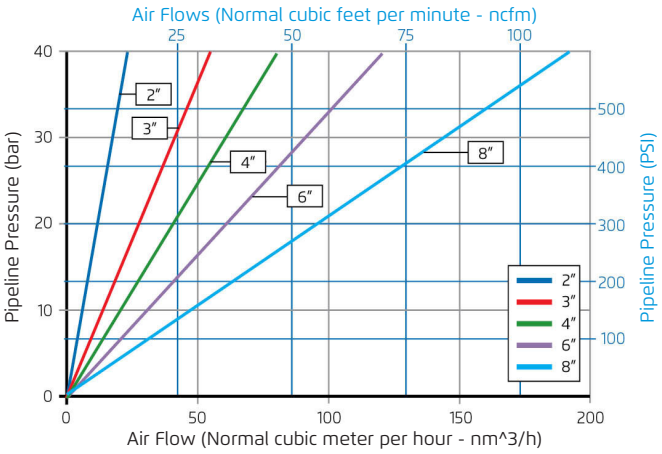
Air Relief with Surge Protection - Down outlet (Pipeline Filling)



Air Release - External Orifice (A30) (Pressurized Operation)



Air Release - Internal Orifice (C70) (Pressurized Operation)

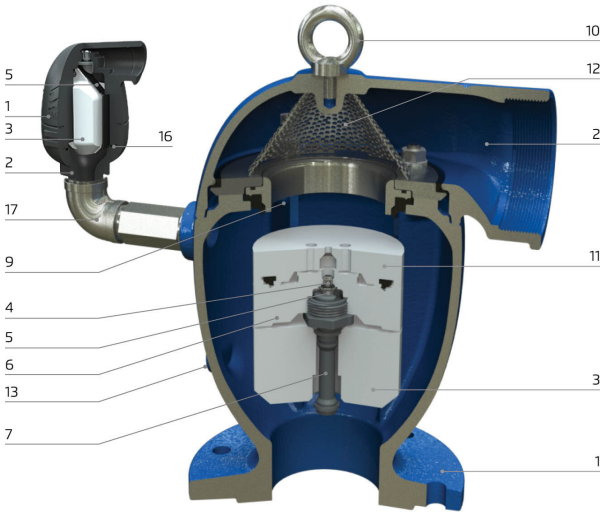


- For higher automatic air release capacity, Please consult with BERMAD.
- Air relief and intake charts are based on actual measurements, measured in Bermad Air Flow test bench, according to EN-1074/4 and AS4883 standard and refer to side outlet. Use Bermad Air software for optimized Sizing & Positioning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

Data for C73 with Surge Protection Feature

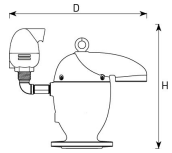
Inlet Sizes	C72-SP Switching Value		C72-SP/AC Air relief at 0.4 bar	
	Side	Down	Side	Down
Inch; mm	bar	bar	nm^3/h	nm^3/h
2"; DN50	0.04	0.05	350	350
3"; DN80	0.05	0.06	700	700
4"; DN100	0.05	0.06	1,100	1,100
6"; DN150	0.04	0.06	1,680	1,680
8"; DN200	0.05	0.05	2,580	2,580

Cutaway



[1] Body
[2] Base
[3] Float
[4] Auto Orifice
[5] Auto Orifice Seal
[6] Aoto Orifice Disc
[7] Auto Orifice Rod
[8] Kinetic Orifice
[9] Kinetic Orifice Seal
[10] Eye Bolt
[11] Surge Protection Disc (SP, Optional)
[12] Insect Screen (Optional)
[13] Service Port (Optional)
[14] Drainage Valve (Optional)
[15] Auto Orifice Cover
[16] O-Ring
[17] Fittings

Dimensions & Weights



		Side Ductile Outlet			Down Ductile Outlet		
Inlet Sizes	Connection	Width (D)	Height (H)	Weight	Width (D)	Height (H)	Weight
in; mm		mm	mm	Kg	mm	mm	Kg
2"; DN50	Threaded	287	326	8.7	332	326	9.2
2"; DN50	Flanged	287	326	11.8	332	326	12.3
3"; DN80	Flanged	342	361	21.1	412	361	21.5
4"; DN100	Flanged	382	391	29.9	573	391	31.2
6"; DN150	Flanged	527	546	63.7	647	546	66.9
8"; DN200	Flanged	642	741	133.9	792	741	137.5