

COMBINATION AIR VALVE

Ductile Iron

Model C75-C

BERMAD C75 is a high quality 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, double orifice 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. The valve minimizes water spraying during air release.

Features & Benefits

- Straight flow body: Higher than usual flow rates.
- Dynamic Sealing: Prevents leakage under low pressure conditions (1.5 psi; 0.1 bar).
- Minimizes water spraying during air release: Innovative 2-step function, automatic orifice (Patented).
- Three optional outlets (sideways, downwards, circular surround mushroom configuration) that can swivel 360°: Easy to install in a variety of site conditions.
- Compact, simple and robust structure with fully corrosion resistant internal parts: Lower maintenance and increased life span.
- Certified to functional standards: AENOR (Spain).
- Certified to drinking water standards: NSF/ANSI/CAN 61 and NSF/ANSI 372 (USA).
- 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.
- Inflow Prevention (code IP): prevents intake of atmospheric air, when this could lead to damaged pumps, required re-priming, or disruption of siphons; prevents intake of flood water or contaminated water into potable water networks.
- Service ports (codes P, U) fitted with 1/4"; DN6 plug for pressure gauge connection, check point or test drain for air valve function.
- Drainage Valve (code Z).
- Insect Screen (code S).



C75 Side Outlet



C75 Down Outlet



C75 Mushroom Outlet



Inlet and Outlet Connections

- Inlets: Flanged 3-12"; DN80-300
- Outlets:
 - Downwards, 3-10", DN80-250 without a connection to drainage pipeline
 - Sideways, female threaded 3-4"; DN80-100, grooved 6-10", DN150-250. Optional addition of extension with 90 degrees for 3-4"; DN80-100
 - Mushroom, 3-12", DN80-300, Does not comply with additional features of AC and IP

Operational Data

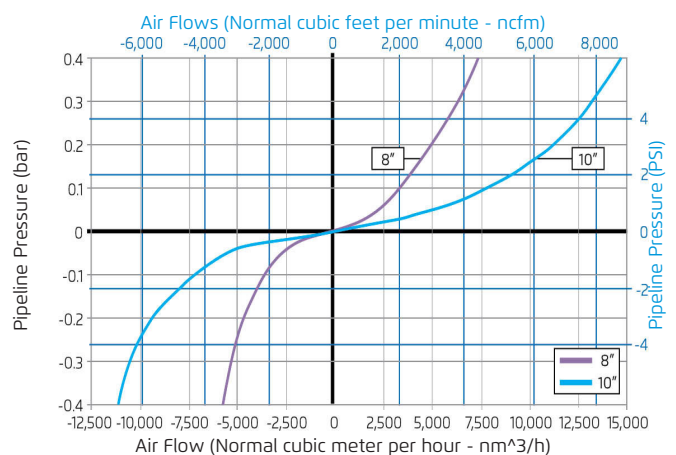
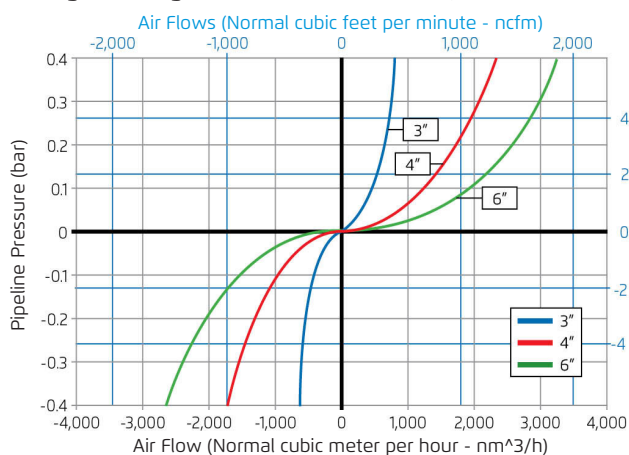
- Pressure Rating: 230 psi, 360 psi, 580 psi
- Minimum operating pressure: 1.5 psi
- Maximum operating pressure: 230 psi, 360 psi, 580 psi
- Media and operating temperature: 33-140°F

Orifice Specifications

Inlet Sizes	Automatic Orifice Area			Kinetic Orifice		Surge Protection		
	230 psi	360 psi	580 psi	Diameter	Area	Number of holes	Hole Diameter	Total Area
Inch; mm	Sq inch	Sq inch	Sq inch	inch	Sq inch	--	inch	Sq inch
3"; DN80	0.002	0.001	0.001	2.0	3.142	4	0.197	0.122
4"; DN100	0.004	0.002	0.002	3.0	7.069	4	0.315	0.312
6"; DN150	0.005	0.003	0.002	4.0	12.566	4	0.394	0.487
8"; DN200	0.014	0.009	0.005	6.0	28.274	4	0.591	1.096
10"; DN250	0.034	0.022	0.012	8.0	50.265	4	0.787	1.948
12"; DN300	0.044	0.030	-	10.0	78.540	4	0.866	2.357

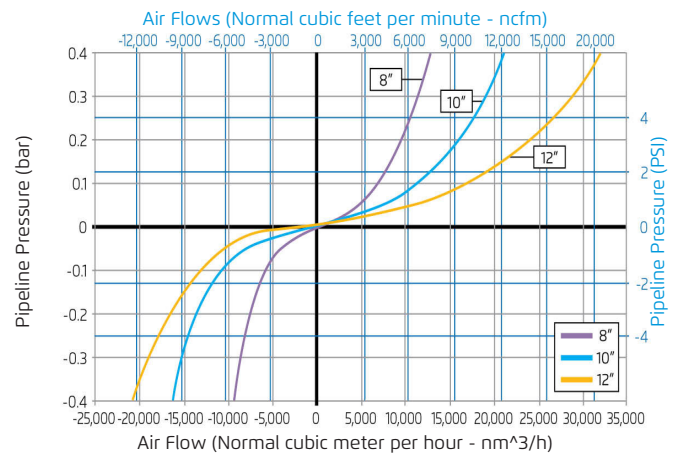
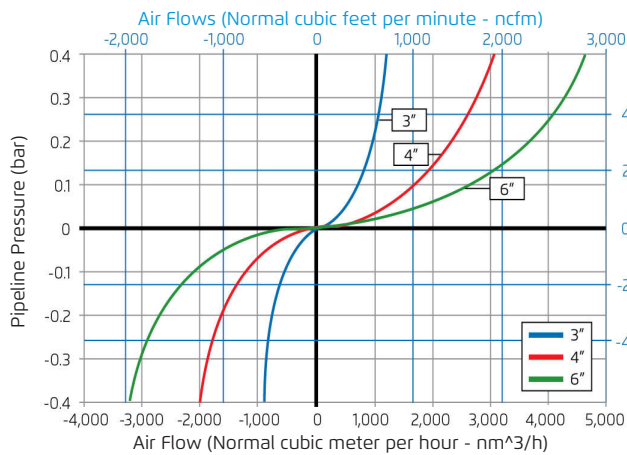
Air Flow Performance Charts

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

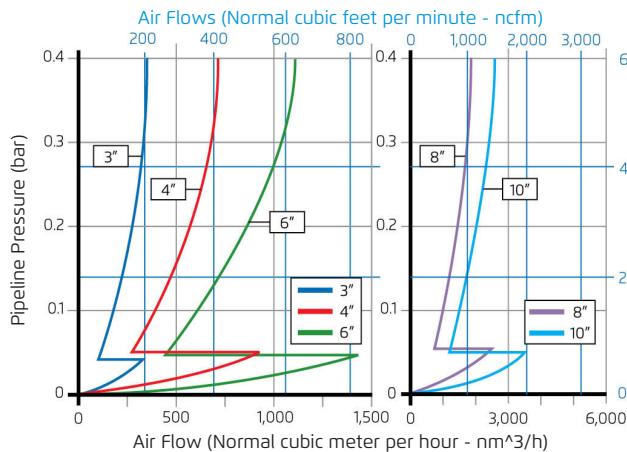




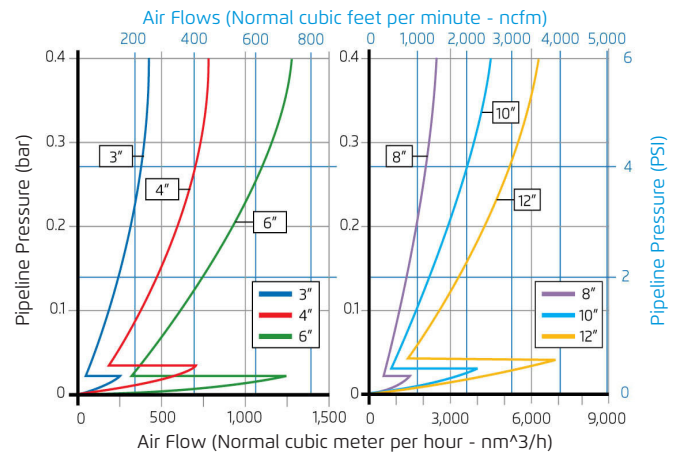
Air Relief and Intake - Mushroom outlet (Pipeline Filling, Draining and Vacuum Conditions)



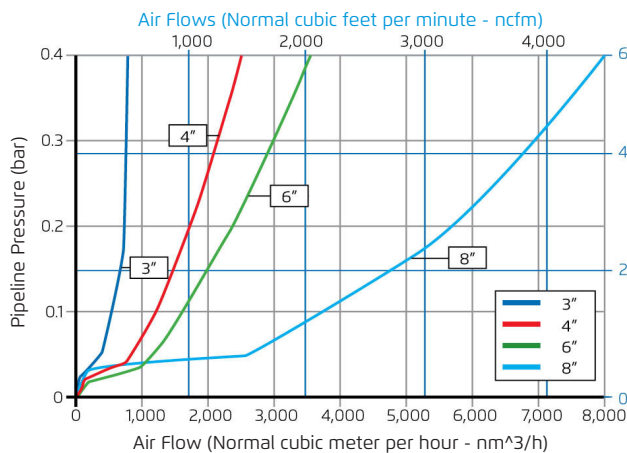
Air Relief with Surge Protection - Down outlet (Pipeline Filling)



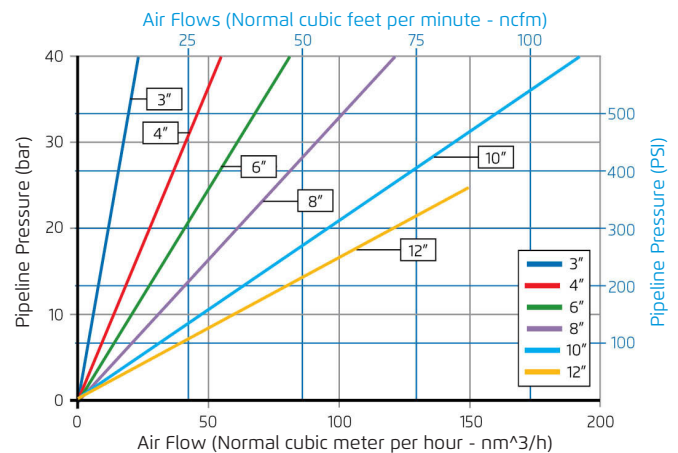
Air Relief with Surge Protection - Mushroom outlet (Pipeline Filling)



Air Relief with Inflow Prevention - Side outlet (Pipeline Filling)



Air Release (Pressurized Operation)



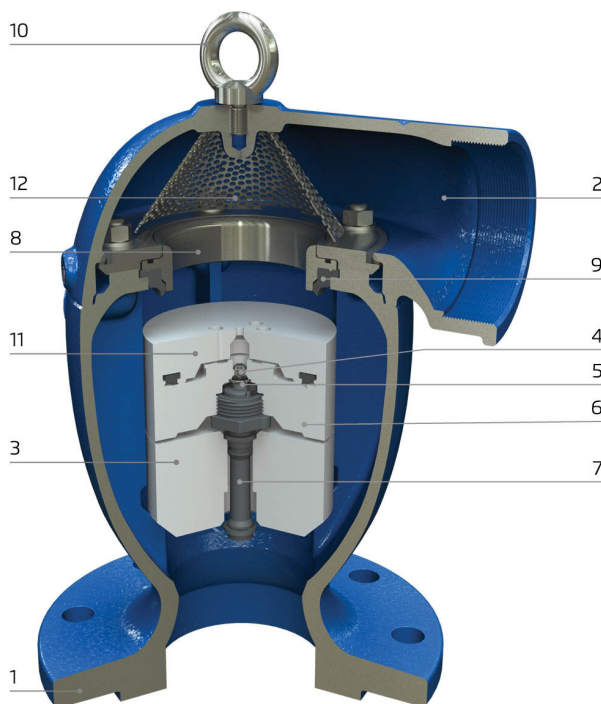
- For higher automatic air release capacity, Please consult with BERMAD.
- Air relief and intake charts for inlet sizes 3"-8" are based on actual measurements, measured during 2014-2015 in Bermad Air Flow test bench, according to EN-1074/4 standard and recognized by AS-4598 (2008) standard. For Side outlet air flow performance, please consult with BERMAD. Use Bermad Air software for optimized Sizing & Positioning of Air Valves.



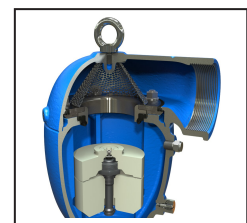
Data for C75-C with Surge Protection Feature

Inlet Sizes	C75-SP Switching Value			C75-SP Air relief at 6 psi		
	Mushroom	Side	Down	Mushroom	Side	Down
Inch; mm	psi	psi	psi	ncfm	ncfm	ncfm
3"; DN80	0.29	0.57	0.68	239	200	200
4"; DN100	0.44	0.78	0.88	450	399	399
6"; DN150	0.29	0.71	0.80	730	627	627
8"; DN200	0.29	0.64	0.83	1,402	958	958
10"; DN250	0.36	0.73	0.73	2,565	1,471	1,471
12"; DN300	0.41	-	-	3,578	-	-

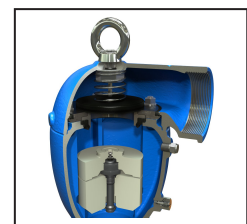
Cutaway



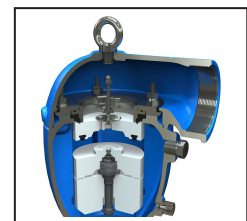
- [1] Body
- [2] Cover
- [3] Float
- [4] Auto Orifice
- [5] Auto Orifice Seal
- [6] Auto Orifice Disc
- [7] Auto Orifice Rod
- [8] Kinetic Orifice
- [9] Kinetic Orifice Seal
- [10] Eye Bolt
- [11] Surge Protection Disc (SP, Optional)
- [12] Insect Screen (Optional)



Without Surge Protection (C75)



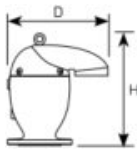
With Inflow Prevention (C75-IP)



With Assisted Closing (C75-AC)



Dimensions & Weights

										
		Side Ductile Outlet			Down Ductile Outlet			Mushroom Ductile Outlet		
Inlet Sizes	Connection	Width (D)	Height (H)	Weight	Width (D)	Height (H)	Weight	Width (D)	Height (H)	Weight
in; mm		in	in	lbs	in	in	lbs	in	in	lbs
3"; DN80	Flanged	7.874	12.598	30.8	9.764	12.598	31.9	7.874	11.969	30.8
4"; DN100	Flanged	10.335	14.567	54.6	12.933	14.567	55.5	9.252	13.780	54.6
6"; DN150	Flanged	12.402	17.047	82.2	15.945	17.047	85.0	11.811	15.827	83.2
8"; DN200	Flanged	15.945	23.346	145.7	20.866	23.228	152.7	14.961	21.457	147.0
10"; DN250	Flanged	20.138	30.945	305.1	26.063	31.102	312.9	19.882	28.976	301.5
12"; DN300	Flanged	---	---	---	---	---	---	21.600	33.460	495.4

Weights refer to air valves with flanges for high pressure (ANSI 300, ISO-40, AS35)