



COMBINATION AIR VALVE

Model C75

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 with 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).
- Minimizes water spraying during air release: Innovative 2-step function, automatic orifice (Patent Pending).
- Three optional outlets (sideways, downwards, circular-surround mushroom configuration) that can swivel 360°: Easy to install in a variety of site conditions.
- Compact, simple, robust and reliable structure with fully corrosion-resistant parts: Lower maintenance and increased life span.
- Designed in compliance with functional standards and water service standards.
- Factory approval and Quality Control: Performance and specification tested and measured with specialized test bench, including vacuum pressure conditions.

Additional Features & Accessories

- Built in Surge Protection (anti-slam): Smoother operation, preventing damage to the valve and the system (C75-SP).
- Inflow Prevention: Prevents intake of atmospheric air in cases where 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 (C75-IP).
- Service Port fitted with ¼"; DN6 plug (codes P, U)
- Drainage Valve (code Z)
- Insect Screen (code S)

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 at road/river crossings.
- Water networks: Protection against vacuum formation, surge and water hammers at points likely to experience water column separation.

Inlet and Outlet Connections

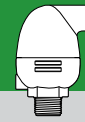
- Inlets: Flanged 3-12"; DN80-300
- Outlets:
 - Downwards, complies with additional feature of SP.
 - Sideways 3"; DN80 female threaded, 4-12"; DN100-300 Grooved. Complies with additional features of SP and IP.
 - Mushroom (circular surround), complies with additional feature of SP.

Materials

- Body and Cover:
 - Cast Ductile Iron (C75-C)
 - Stainless Steel (C75-N)
 - Cast Steel / WCB (C75-S)
- Coating: Fusion Bonded Epoxy, Blue
- Top Plate: Stainless Steel, Ductile Iron
- Float Assembly: Polypropylene, Glass-reinforced Nylon
- Automatic Orifice: Stainless Steel
- Elastomers: EPDM

Operational Data

- Pressure Rating: 230 psi; ISO PN16, 360 psi; ISO PN25, 580 psi; ISO PN40
- Minimum operating pressure: 1.5 psi; 0.1 bar
- Maximum operating pressure: 230 psi; 16 bar, 360 psi; 25 bar, 580 psi; 40 bar
- Media and operating temperature: Water, 33-140°F; 1-60°C

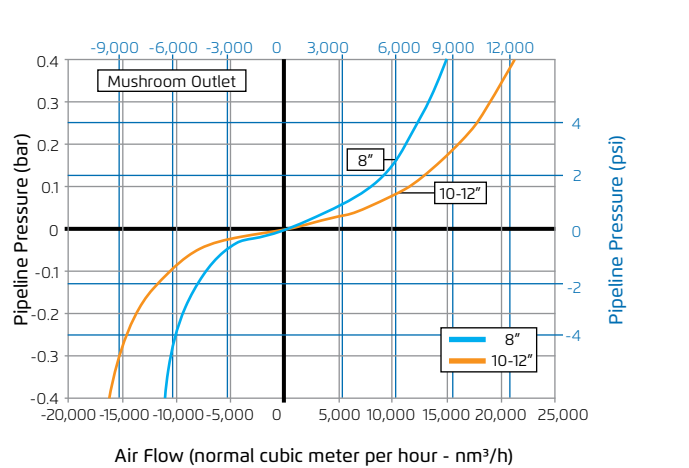
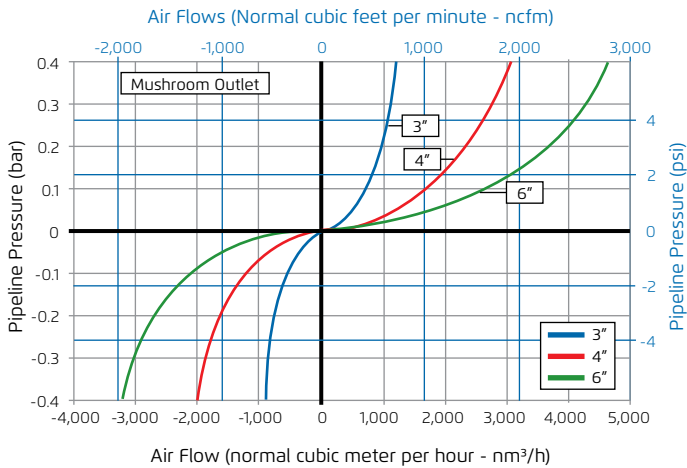
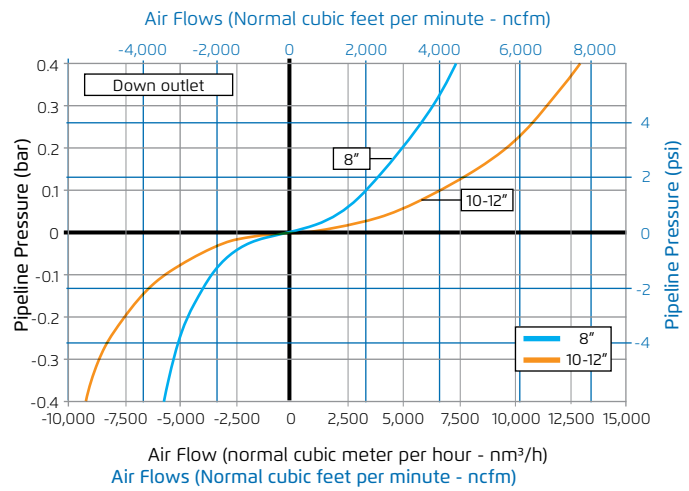
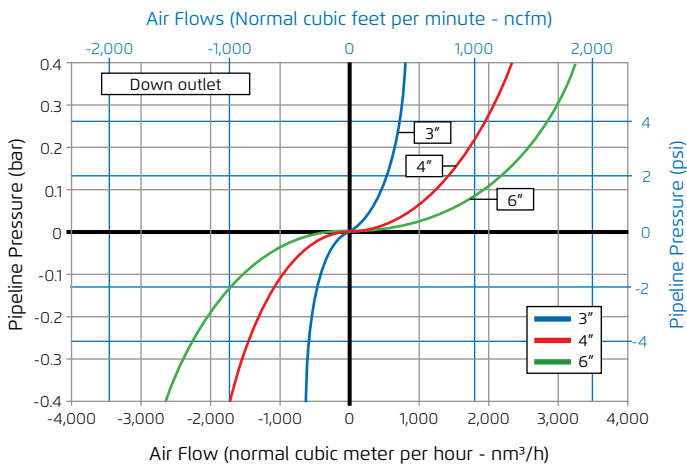


Orifice Specifications

Inlet Size	Automatic Orifice Area			Kinetic Orifice		Surge Protection		
	230 psi PN16	360 psi PN25	580 psi PN40	Diameter	Area	Number of holes	Hole Diameter	Total Area
	Sq inch Sq mm	Sq inch Sq mm	Sq inch Sq mm	inch mm	Sq inch Sq mm		inch mm	Sq inch Sq mm
3"	0.002	0.001	0.001	2.0	3.142	4	0.197	0.122
DN80	1.1	0.6	0.4	50	1,963		5	79
4"	0.004	0.002	0.002	3.0	7.069	4	0.315	0.312
DN100	2.5	1.5	1	80	5,027		8	201
6"	0.005	0.003	0.002	4.0	12.566	4	0.394	0.487
DN150	3.1	2	1.3	100	7,854		10	314
8"	0.014	0.009	0.005	6.0	28.274	4	0.591	1.096
DN200	9.1	5.7	3.5	150	17,671		15	707
10"	0.034	0.022	0.012	8.0	50.265	4	0.787	1.948
DN250	22.1	14.5	8	200	31,416		20	1,257
12"	0.034	0.022	0.012	8.0	50.265	4	0.787	1.948
DN300	22.1	14.5	8	200	31,416		20	1,257

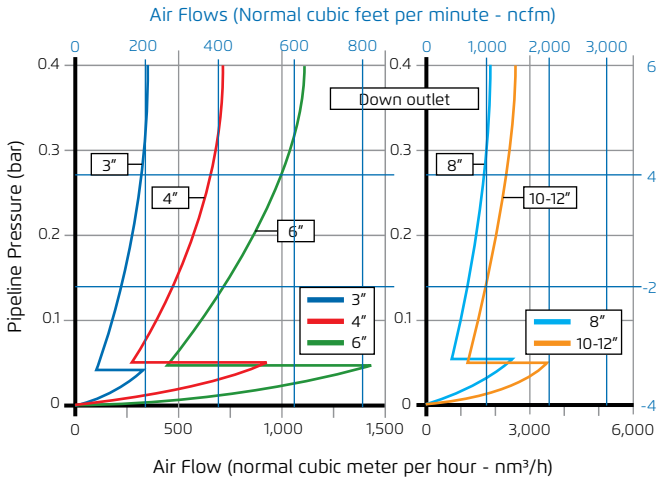
Air Flow Performance Charts

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

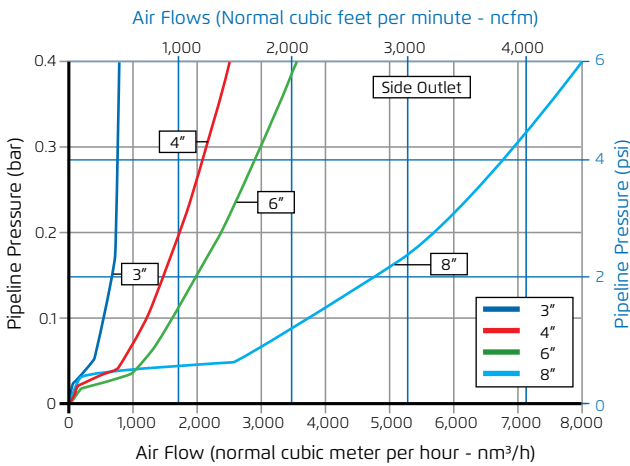




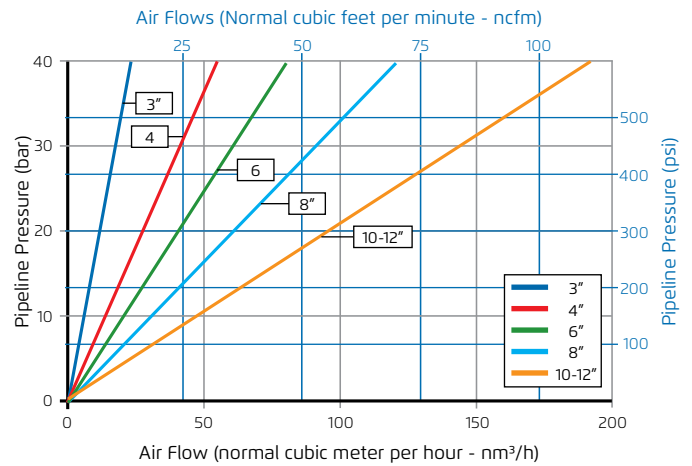
Air Relief with Surge Protection (Pipeline Filling)



Air Relief with Inflow Prevention (Pipeline Filling)



Air Release (Pressurized Operation)



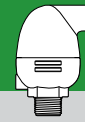
For higher automatic air release capacity, Please consult with BERMAD.

Data for C75 with Surge Protection Features

Inlet Size	C75-SP Switching Value			C75-SP Air relief at 6 psi; 0.4 bar		
	Mushroom	Side	Down	Mushroom	Side	Down
inch	psi	psi	psi	ncfm	ncfm	ncfm
mm	bar	bar	bar	nm ³ /h	nm ³ /h	nm ³ /h
3"	0.29	0.57	0.68	239	200	200
DN80	0.02	0.04	0.05	420	350	350
4"	0.44	0.78	0.88	450	399	399
DN100	0.03	0.05	0.06	790	700	700
6"	0.29	0.71	0.80	730	627	627
DN150	0.02	0.05	0.06	1,280	1,100	1,100
8"	0.29	0.64	0.83	1,402	958	958
DN200	0.02	0.04	0.06	2,460	1,680	1,680
10" - 12"	0.36	0.73	0.73	2,565	1,471	1,471
DN250 - DN300	0.03	0.05	0.05	4,500	2,580	2,580

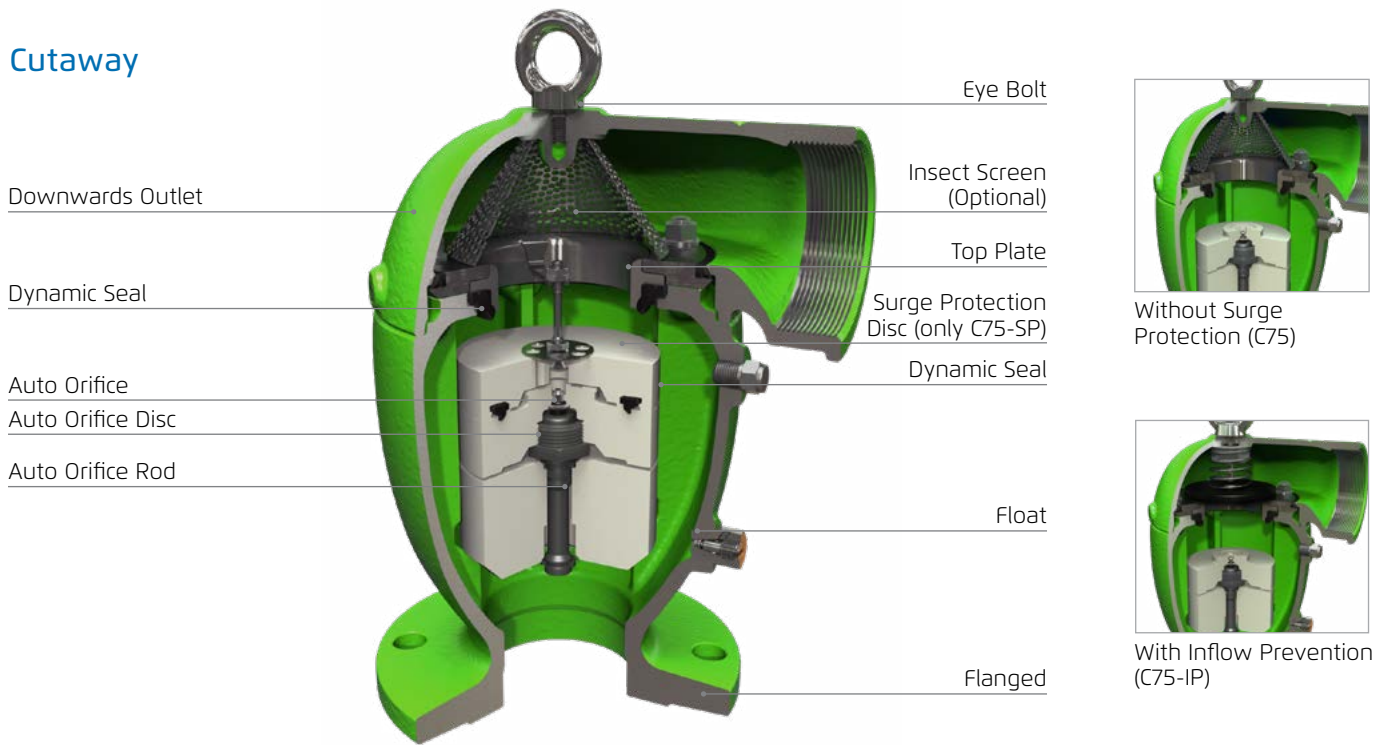
Air relief and intake charts are based on actual measurements, measured during 2014-2015 in BERMAD Air Flow test bench, according to EN-1074/4 standard and recognized by AS-4598 (2008) standard. For Side outlet air flow performance, please consult with BERMAD. Use BERMAD Air software for optimized Sizing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

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Model C75

Cutaway



C75 - Dimensions & Weights

		 Side outlet			 Down outlet			 Mushroom outlet		
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
3"	Flanged	3.858	12.598	26.4	9.843	12.756	27.6	7.874	11.969	26.9
DN80		98	320	12.0	250	324	12.5	200	304	12.2
4"	Flanged	10.335	14.567	41.0	12.933	14.646	41.9	9.252	13.780	40.8
DN100		263	370	18.6	329	372	19.0	235	350	18.5
6"	Flanged	12.402	17.047	59.5	15.866	17.047	61.7	11.811	15.866	58.4
DN150		315	433	27.0	403	433	28.0	300	403	26.5
8"	Flanged	15.945	23.622	141.1	21.142	23.622	145.5	14.961	21.772	136.6
DN200		405	600	64.0	537	600	66.0	380	553	62.0
10"	Flanged	20.138	31.102	284.3	26.063	31.102	293.1	19.882	28.976	279.9
DN250		512	790	129.0	662	790	133.0	505	736	127.0
12"	Flanged	21.319	31.890	306.4	27.244	31.890	315.2	19.882	29.764	304.2
DN300		542	810	139.0	692	810	143.0	505	756	138.0



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