



Model 39BC

(Raw water / gray water applications only)

ANTI-SLAM AIR RELEASE AND VACUUM BREAKER VALVES

- Automatically Eliminates Entrapped Air Pockets and Provides Vacuum Protection
- Stainless Steel Body Construction with HDPE Floats
- EPDM Seat and O-Ring Seals
- Meets AWWA C512-15 standard requirements

Designed to protect pipelines from air lock and vacuum collapse, the Cla-Val Model 39BC High Performance Air Release and Vacuum Breaker Valve eliminates air and prevents vacuum formations in pipelines.

A large venting orifice and large float clearances freely exhaust or admits air during pipeline filling or draining.

During normal pipeline operation, air accumulation and buoyancy cause the control float to lower or lift. As the water level lowers inside the valve, small amounts of accumulated air are released through the small orifice. Once air is released, the control float closes drip tight.



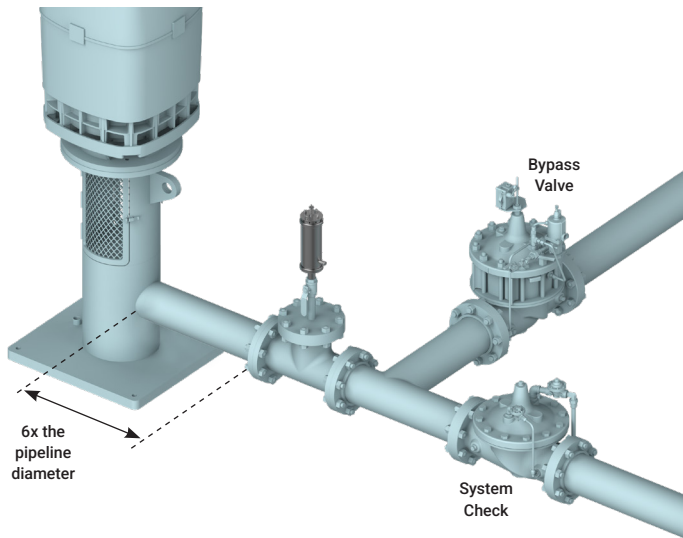
Studded Flange



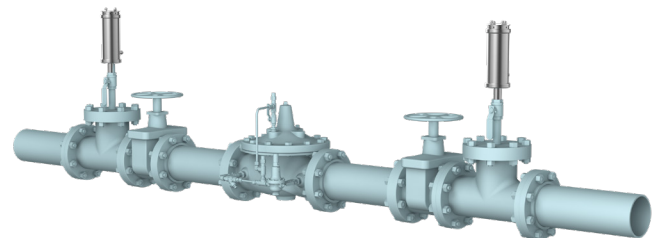
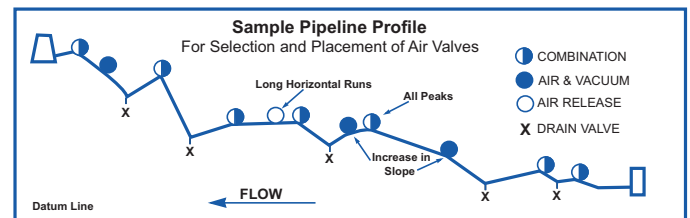
NPT

Typical Applications

- Vertical Turbine Pump Discharge



- Transmission Pipeline High Points
- Water Treatment Plant Piping High Points



Installation

Model 39BC is typically installed between the pump discharge and the system check valve.

Series 39BC Combination Air Release and Vacuum Breaker Valves are typically installed at high points in pipelines for air release, or at anticipated pipeline vacuum occurrence locations.

Install Series 39BC at regular intervals (approximately 1/2 mile) along uniform grade line pipe.

Operation

Anti-Slam Air Discharge

During rapid filling, pump trips rapid valve closure or other surge events, the valve will switch into anti slam mode. This protects the pipeline from damage.

Vacuum Break

During draining, pump stoppage or pump trip, the floats will drop allowing air back into the pipeline at the same rate as the retreating water column.

Dimensions (In Inches)

Size	End Connections	++Pressure Rating	Overall Height	Overall Diameter	Weight
1"/25mm	NPT	232 psi	13.23"	3.94"	9 lbs
		580 psi	13.23"	3.94"	10 lbs
	ANSI 150 Flanged	232 psi	13.23"	3.94"	9 lbs
	ANSI 300 Flanged	363 psi	13.23"	3.94"	10 lbs
2"/50mm	NPT	363 psi	13.62"	5.12"	15 lbs
		580 psi	13.62"	5.12"	17 lbs
	ANSI 150 Flanged	232 psi	13.62"	5.12"	15 lbs
	ANSI 300 Flanged	363 psi	13.62"	5.12"	17 lbs
3"/75mm	ANSI 150 Flanged	232 psi	13.46"	7.87"	33 lbs
	ANSI 300 Flanged	363 psi	13.46"	7.87"	39 lbs
		580 psi	13.46"	7.87"	39 lbs
4"/100mm	ANSI 150 Flanged	232 psi	13.46"	8.60"	36 lbs
	ANSI 300 Flanged	363 psi	13.46"	9.25"	41 lbs
		580 psi	13.46"	9.25"	46 lbs
6"/150mm	ANSI 150 Flanged	232 psi	19.84"	11.22"	89 lbs
	ANSI 300 Flanged	363 psi	19.84"	11.81"	102 lbs
		580 psi	19.84"	11.81"	135 lbs
8"/200mm	ANSI 150 Flanged	232 psi	20.91"	13.39"	122 lbs
	ANSI 300 Flanged	363 psi	20.91"	14.17"	144 lbs
		580 psi	20.91"	14.76"	192 lbs
10"/250mm	ANSI 150 Flanged	232 psi	24.09"	16.73"	242 lbs
	ANSI 300 Flanged	363 psi	-	-	-
		580 psi	-	-	-
12"/300mm	ANSI 150 Flanged	232 psi	26.14"	20.87"	418 lbs
	ANSI 300 Flanged	363 psi	-	-	-
		580 psi	-	-	-

Pressure Ratings

7.2 - 232 psi
 7.2 - 363 psi
 7.2 - 580 psi
 **7.2 - 928 psi
 **7.2 - 1450 psi
 ** Available as special order

Operating Temperatures

32 - 176 Deg F / 0 - 80 Deg C

Materials

Shell components: Stainless steel 304/316
 Floats: High-density polyethylene (HDPE)
 Seat: EPDM
 O-rings: EPDM

Inlet Connections

NPT threaded
 ANSI 150 studed flange
 ANSI 300 studed flange
 ** ANSI 600 studed flange
 ** Available as special order

Note:

++ MUST specify required pressure rating at time of order

++ Higher pressure ratings (ANSI 600 flanged) are available, consult factory

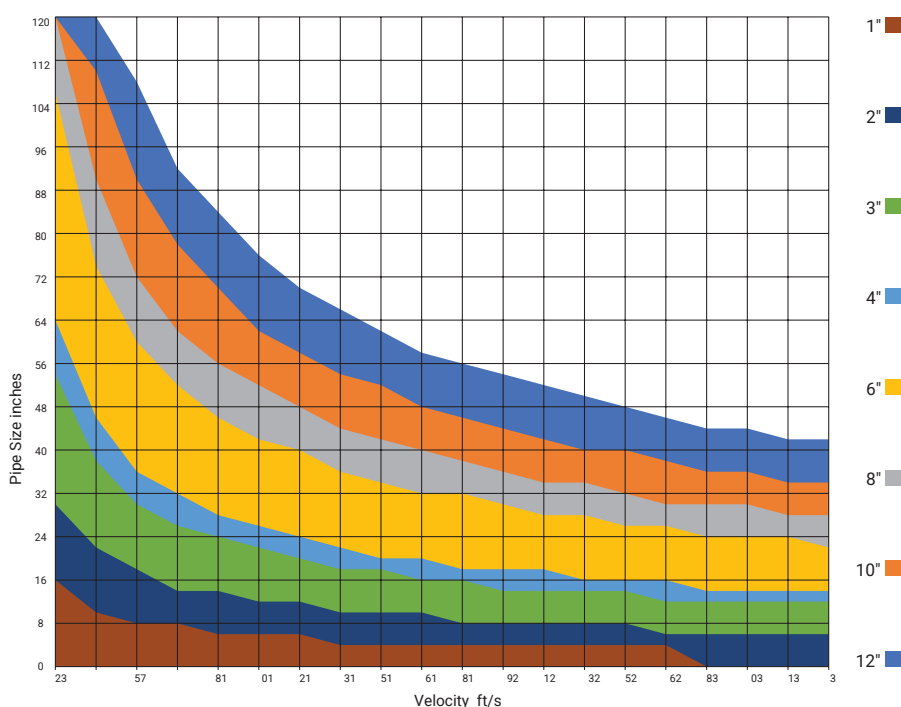
Larger sizes (up to 20") are available upon request, consult factory

Valve Sizing Selection

Plot pipeline size against velocity (where velocity is the greater of the max flow velocity or max drainage velocity. Drainage velocity can be based on drainage or expected potential rupture). Select a valve size based on the color band that the intersection point of pipe size vs velocity is plotted on.

This will give you the valve size of a valve capable of drawing in sufficient air to match the drainage rate. All values are based on maintaining a minimum negative pressure of 5 psi (0.35 bar) in the pipeline pressure. It is not good practice to allow the negative pressure drop below 8.7 psi (0.6 bar) negative differential in the pipeline.

Be aware when sizing that the upper part of the color band is closer to the minimum negative differential of 5 psi (0.35 bar) and the lower part closer to 1.45 psi (0.1 bar) negative differential pressure. If you are quite close to the higher part of the band, one should then switch to the next size of valve to assure the safety of the pipeline.



Anti Slam Switching Points & Input Data For Surge Programs								
	1"	2"	3"	4"	6"	8"	10"	12"
Anti-Shock Orifice Size (inches)	0.16	0.35	0.55	0.67	1	1.34	1.65	2
Inlet Size (inches)	1	2	3	4	6	8	10	12
Outlet Size (inches)	1	2	3	4	6	8	10	12
Switching Pressure (psi)	1.04	1.03	1.03	1.03	0.87	0.87	0.87	0.87
Switching Velocity (ft/s)	147	109	111	111	121	121	121	121
Switching Flow (gpm)	349	1030	2679	4200	10350	18386	28737	41401

