

High Performance Combination Air Release & Vacuum Breaker Valve



- Designed for Pressures Up to 600 PSI
- Automatically Protects Pipelines
- Easily Serviced Without Removal from Pipeline
- Simple, Effective Patented Design
- Corrosion Resistant Internal Parts
- Engineered For Lasting Service

Designed to protect pipelines from air lock and vacuum collapse, the Cla-Val Series 33A Air Release and Vacuum Breaker Valve eliminates air and prevents vacuum formations in pipelines. It has a large venting orifice and large float clearances to freely exhaust or admit air during pipeline filling or draining.

During normal pipeline operation, air accumulation and buoyancy cause the float ball 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 patented float poppet system closes drip tight.

Valve servicing is simple because the entire float poppet system, can be replaced without removal of the valve body from the pipeline.

Typical Applications

- Water Transmission Pipeline High Points
- Water Treatment Plant Piping High Points
- Vertical Turbine Pump Discharge

Installation

Series 33A 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 33A at regular intervals (approximately 1/2 mile) along uniform grade line pipe. Mount the unit in the vertical position on top of the pipeline, and include an isolation/shutoff valve.

Series 33A is often installed upstream of check valves in pump discharges to vent air during start-up and to allow air reentry when the pump stops.

Operation

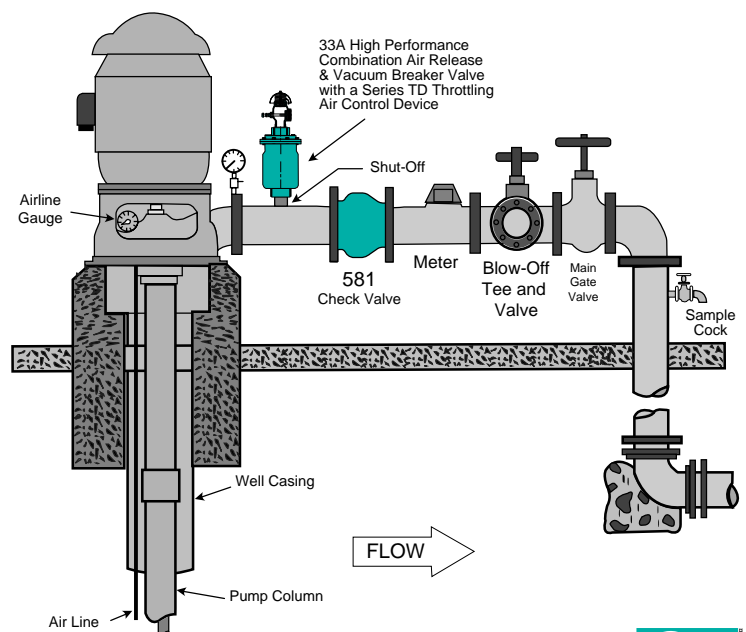
Air Release Mode—Valve is normally open.

When line is filled or pump started, air is exhausted through the normally open 33A valve.

As liquid fills the valve, float ball rises to form a drip-tight closure and remaining air is exhausted through small orifice.

Note: Available for Sea Water Service
See Material Specifications

Vacuum Prevent Mode When line pressure drops below positive pressure and the liquid level lowers, the float drops, unseating the valve and allowing air into the line, thus preventing a vacuum.



Specifications

MODEL 33A - 1", 2", 3" and 4" SIZES Single Body Combination Air Vacuum Air Release Valve

Pressure Ratings

500 psi Ductile Iron
Body and Cover

Materials

Body and Cover:
Ductile Iron
ASTM A536 65-45-12

500 psi Stainless Steel
Body and Cover

Body and Cover
Stainless Steel T303

600 psi Cast Steel
Body and Cover

Body and Cover
Cast Steel ASTM A 216 WCB

Note:

Readily available for seawater service and other
corrosive fluids applications Made of:
Monel - Bronzes (ASTM B61 or ASTM B148) - Stainless Steel

Standard Internals

Float: Stainless Steel T304 or Monel (extra cost)
Balance internals parts Stainless Steel and Delrin
Seals Nitrile Rubber or Viton (extra cost)

Temperature Range

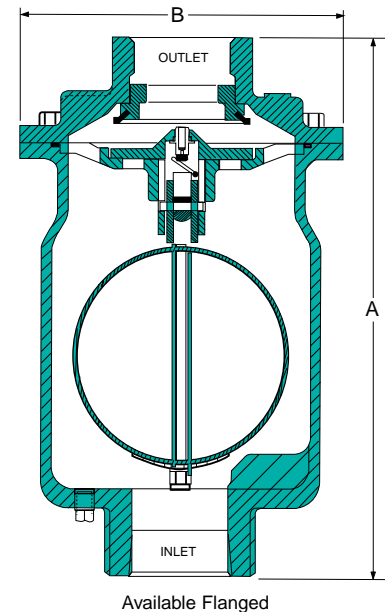
Water to 180° F

Optional:

1. Fusion epoxy lined and coated
2. For Well Service Install Throttling Device on the Outlet

Dimensions (In Inches)

Valve Size	1"	2"	3"	4"
A	9.10	13.50	12.75	12.75
B (Diameter)	6.25	7.50	9.00	9.00
Inlet/Outlet	1" NPT	2" NPT	3" NPT	4" NPT
Approximate Calculated Shipping Weight (lbs)	25	29	38	40



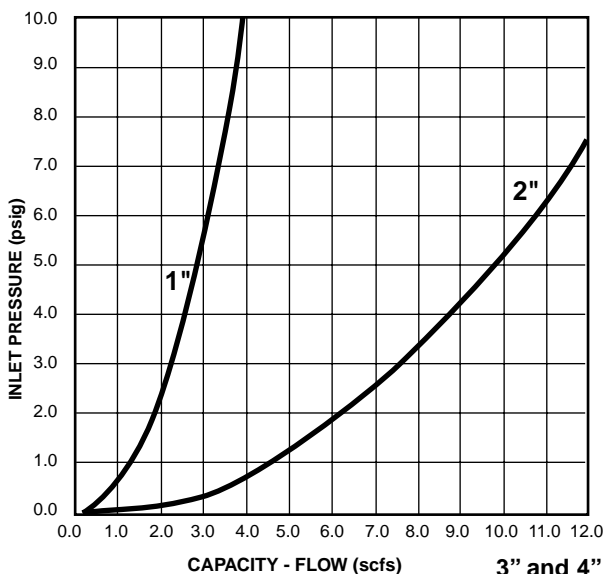
When Ordering, Please Specify

1. Catalog No.
2. Valve Size
3. Pressure Rating
4. Materials

Valve Selection

Air-Vacuum Capacity

Determine anticipated water flow and allowable pressure differential for the pipeline application. Select valve from chart to exhaust or admit air at the same rate as water filling or draining (in CFS). For larger flows, two or more Model 33A's may be installed in parallel



3" and 4" sizes please consult factory

Small Orifice Capacity

During normal pipeline operation, small amounts of entrapped air will exhaust through the float actuated 0.076 inch orifice. Use chart to determine discharge capacity.

