Series 33A

Sizes 1" - 4"

High Performance Combination Air Release & Vacuum Breaker Valve

Flanged Inlet Available

- **Rated Up to 450 PSI W.P.**
- **Automatically Eliminates Air Pockets**
- **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 Model 33A 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 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

- **High Pressure - Up to 450 PSI W.P.**
- **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.

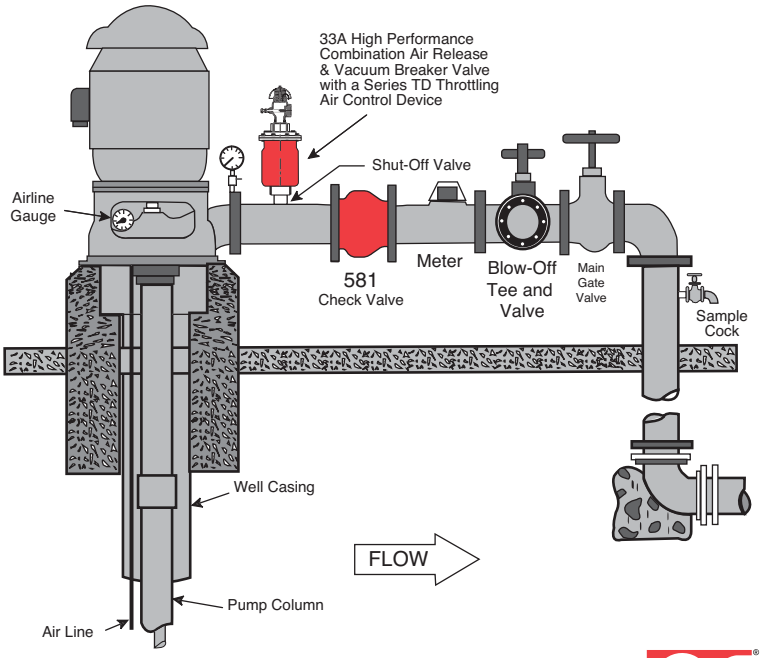
Series 33A is often installed upstream of check valves in pump discharges to vent air during start-up and to allow air reentry when the pump stops.

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 Release and Vacuum Breaker Valve

Pressure Ratings	Materials
500 psi	Body and Cover: Ductile Iron ASTM A536 65-45-12
500 psi	Body and Cover Stainless Steel T316
600 psi	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) - 316 Stainless Steel

Standard Internals
Float: Stainless Steel T316 or Monel (extra cost)
Balance internals parts Stainless Steel and Delrin
Seals Nitrile Rubber or Viton™ (extra cost)

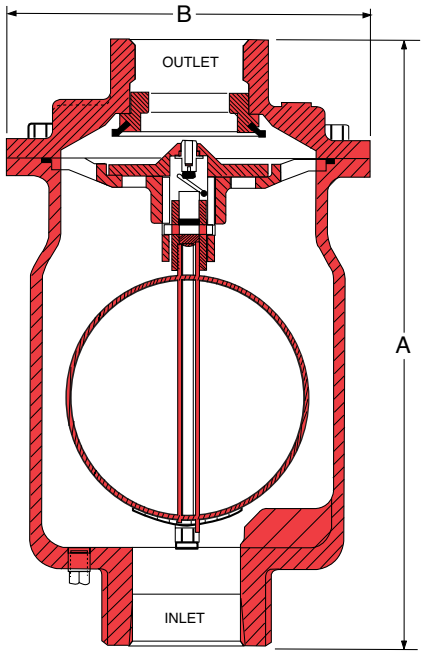
Temperature Range
Water to 180° F

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	6.25	7.50	9.00	9.00
Inlet (NPT)	1" NPT	2" NPT	3" NPT	4" NPT
Outlet (NPT)	1" NPT	2" NPT	3" NPT	4" NPT
Shipping Wt. (Lbs.)*	25	29	38	40
Max. Operating PSI (Std. Orifice)	300	500	300	300
Max. Operating PSI (with .076 Orifice)	300	500	450	450

*Approximate



Available Flanged

When Ordering, Please Specify

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

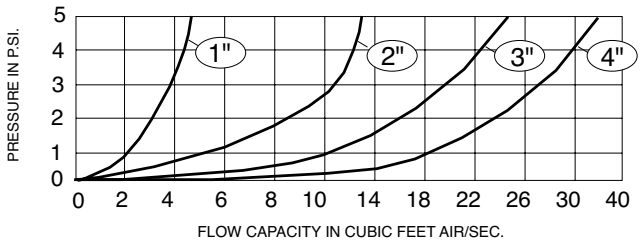
Note: Manufactured to meet ANSI/AWWA C512-04

Valve Sizing Selection

Large Orifice Air-Vacuum Capacity

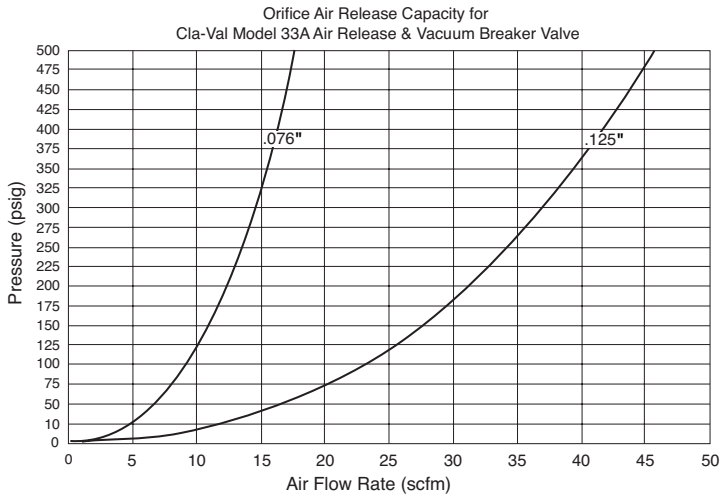
Determine anticipated water flow and allowable pressure differential for the pipeline application. Select valve from chart to exhaust or admit air at the same rate as water filling or draining (in CFS). For larger flows, two or more Model 33A's may be installed in parallel

Large Orifice



Small Orifice Capacity

During pressurized pipeline operation, small pockets of entrapped air will be released through the float actuated 0.076 or .125 inch orifice.
1" and 2" supplied with .076 orifice
3" and 4" supplied with .125 orifice
Use chart to determine discharge capacity.



Note: For sizing made easy request: Cla-Val Selector Slide Rule

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