CLA-VAL 33ATD

Air Release & Vacuum Breaker Valve (Threaded & Flanged)
with Throttling Air Control Device Sizes 1" - 2" - 3" - 4" - 6"

Simple, Reliable and Accurate

Flanged

Threaded also available

- **Automatically eliminates air pockets**
- **Easily serviced without removal from pipeline**
- **Simple, effective patented design**
- **Corrosion resistant internal parts**
- **Engineered for lasting service**
- **Sizes 2", 3" and 4" UL Listed**

Designed to protect pipelines from air lock and vacuum collapse,the CLA-VAL Model 33ATD 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 floats 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.

Installation

Series 33ATD is often installed upstream of check valves in vertical pump discharges to throttle air out during start-up and to allow full air reentry when the pump stops.

Operation

Air Release Mode - Valve is normally open:

When line is filled or pump started, air is throttled through the air control device TD. As liquid fills the valve, float ball rises to form a drip-tight closure and remaining air is exhausted through small orifice. Air throttling can be adjusted by mean of adjusting screw.

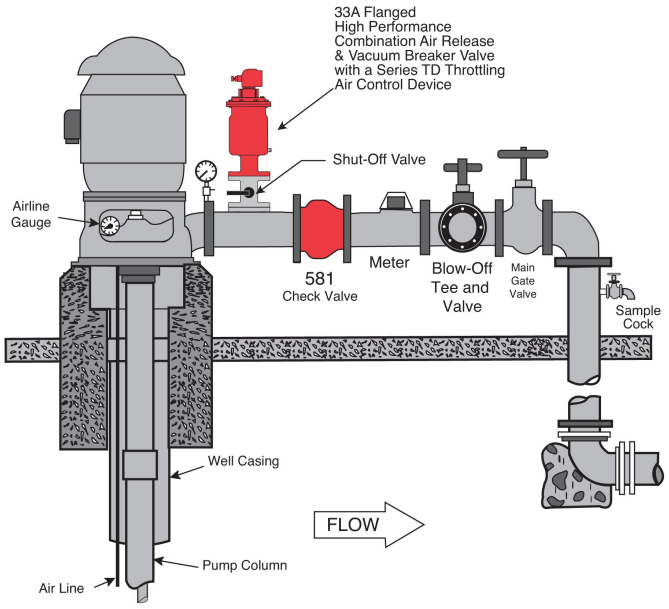
Vacuum Prevent Mode:

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. The spring loaded disc in the TDe throttling air control device is moved to the air intake position due to the negative pressure.

Note: Available for Sea Water Service (see material specifications).

Typical Application

- **Standard Max. D.W.P. 300 psi (For Higher Operating Pressure Consult Factory)**
- **Transmission pipeline high points**
- **Water treatment plant piping high points**
- **Offshore platforms**
- **Vertical turbine pump discharge**



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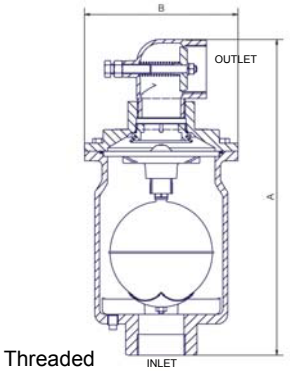
Dimensions

	33A Pressure Class 300 Lb Threaded				33A Pressure Class 150 Lb Flanged (INLET)			
Valve size (inches)	**1"**	**2"**	**3"**	**4"**	**2"**	**3"**	**4"**	**6"**
A (inches)	11.81	15.74	**	19.69	17.13	**	22.64	**
B (inches)	4.13	7.51	**	9.25	7.51	**	9.25	**
Inlet (ANSI)*	1" NPT	2" NPT	**	4" NPT	2"	**	4"	**
Outlet (NPT)*	1" NPT	2" NPT	**	4" NPT	2"	**	4"	**
Number of Holes	-	-	**	-	4	**	8	**
Diameter of Bolts	-	-	**	-	16	**	19	**
Approximate calculated shipping weight (lb.)	25	29	38	40	39	48	50	70

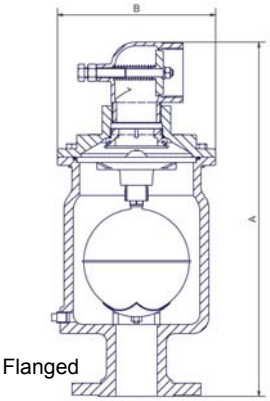
** Consult Factory

Pressure Ratings

Valve Size (inches)	**Orifice Ø** (inches)	**Standard Max. Pressure**	**Materials of construction**
1"	.076"	300 psi	• Ductile iron ASTM A536 65-45-12 • Epoxy coated cast steel ASTM A 216WCB • ASTM B61 Naval bronze • ASTM B 148 Nl Aluminum Bronze • 316 Stainless steel • Duplex stainless steel • Super duplex stainless steel
2"	.076"	500 psi	
3" & 4"	.125"	300 psi	
3" & 4"	.076"	450 psi	
6"	.076"	300 psi	
Note: Higher pressure available upon request			



Threaded



Flanged

Specifications

Standard Internals:
Float: Stainless Steel 304SS standard, T316 or Monel optional (extra cost)
Balance internals parts Stainless Steel and Delrin
Seals Nitrile Rubber or Viton™ (extra cost)

Temperature Range: Water up to 180°F

Optional:

Fusion epoxy lined and coated

For well service throttling device on the outlet specify model TD

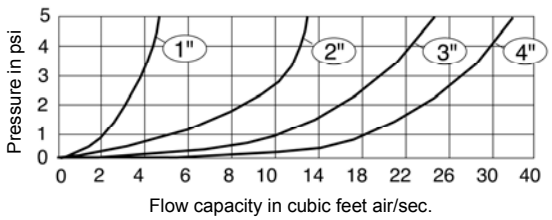
When Ordering, Please Specify

1. Catalog No.
2. Valve size
3. Pressure rating
4. Materials

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.



Note: For sizing made easy request: CLA-VAL selector slide rule

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. Use chart to determine discharge capacity.