



— MODEL — **33ATD**
Sizes 2" - 3" - 4"

Air Release & Vacuum Breaker Valve (Threaded & Flanged) with Throttling Air Control Device



Flanged Inlet shown
Threaded Inlet 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 formation 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:

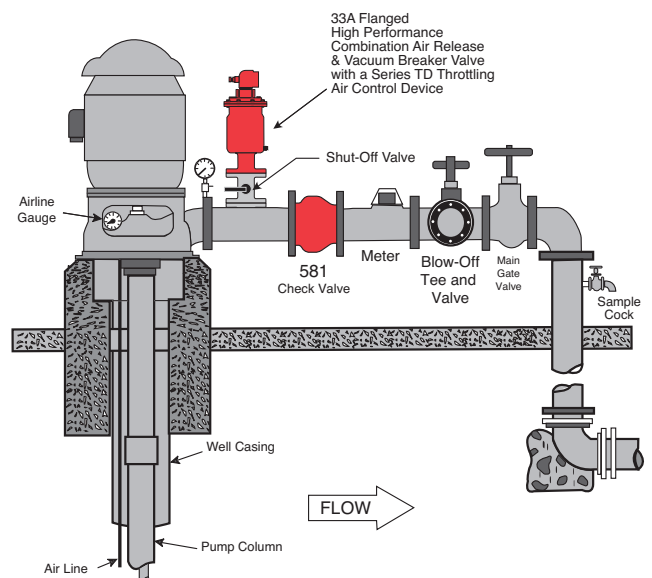
When line is filled or pump started, air is throttled through the air control device TD. As liquid fills the valve, float ball rises to form a drip-tight closure and remaining air is exhausted through small orifice. Air throttling can be adjusted by means of adjusting the screw.

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 TD throttling air control device is moved to the air intake position due to the negative pressure.

Typical Applications

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



visit www.cla-val.com to learn
about our complete line of
fire protection products.

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

Dimensions (In Inches)

MODEL 33ATD - 2", 3", and 4" Sizes

| | 33A Pressure Class 300 Lb Threaded | | | | 33A Pressure Class 150 Lb Flanged (INLET) | | | 33A Pressure Class 300 Lb Flanged (INLET) | | |
|----------------------------------------------|---------------------------------------|--------|--------|--------|----------------------------------------------|--------|--------|----------------------------------------------|--------|--------|
| Valve Size | 1"* | 2" | 3" | 4" | 2" | 3" | 4" | 2" | 3" | 4" |
| A | 11.81 | 16.50 | 18.50 | 20.00 | 17.75 | 21.75 | 23.50 | 18.00 | 22.00 | 23.75 |
| B | 4.13 | 7.50 | 9.25 | 9.25 | 7.50 | 9.25 | 9.25 | 7.50 | 9.25 | 9.25 |
| Inlet (ANSI) | 1" NPT | 2" NPT | 3" NPT | 4" NPT | 2" | 3" | 4" | 2" | 3" | 4" |
| Outlet (NPT) | 1" NPT | 2" NPT | 3" NPT | 4" NPT | 2" NPT | 3" NPT | 4" NPT | 4" NPT | 3" NPT | 4" NPT |
| Number of Holes | — | — | — | — | 4 | 4 | 8 | 8 | 8 | 8 |
| Diameter of Bolts | — | — | — | — | .625 | .625 | .625 | 0.75 | 0.75 | 0.75 |
| Approximate calculated shipping weight (lb.) | 25 | 29 | 38 | 40 | 39 | 48 | 50 | 41 | 55 | 58 |

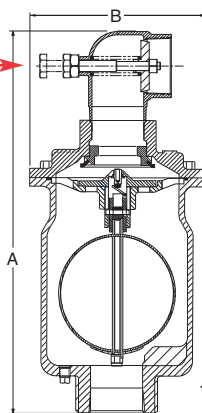
* 1" size is not UL Listed. Consult Factory for other available end options.

Pressure Ratings

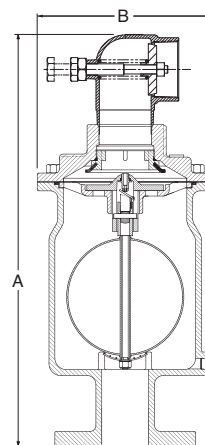
| Valve Size | Orifice Dia. | Standard Maximum Pressure |
|------------|-----------------------------|---------------------------|
| 1" | .076" | 300 psi |
| 2" | .076" | 500 psi |
| 3" & 4" | .076" | 300 psi |
| 6" | .076" | 300 psi |
| 3" & 4" | Optional upon request .125" | 300 psi |

Note: Maximum Pressure Rating for UL Listed 33ATD = 300 psi

Throttling Adjustment



Threaded



Flanged

When Ordering, Please Specify

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

Specifications

Standard Internals

Float: Stainless Steel 304SS Standard, T316 or Monel optional (extra cost)

Balance internal parts Stainless Steel and Delrin

Seals Nitrile Rubber or Viton® (extra cost)

Note: Fluorocarbon is not a UL Listed Seal Material

Temperature Range: Water to 180° F

Optional:

Fusion epoxy lined and coated

For well service throttling device on the outlet specify model TD

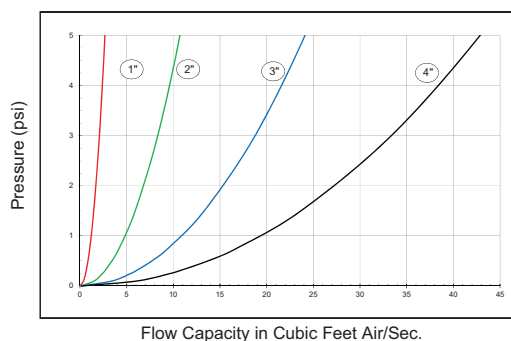
Materials of Construction

- Nickel Aluminum Bronze (NAB) - ASTM B148 Alloy C95800
- Monel - QQ-N-288 Comp B - ASTM A494 Grade M30H
- Cast Steel - ASTM A216 Grade WCB
- 316 Stainless Steel - ASTM A743 Grades CF3M and CFM8
- Super Austenitic Stainless Steel - ASTM A351 Grade CK3MCuN (SMO 254)
- Super Duplex Stainless Steel - ASTM A890 Grade 5A (CE3MN)

Valve Sizing Selection

Air-Vacuum Flow 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 33ATD's may be installed in parallel



Air Release 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.

