



CLA-VAL 33A/TDe

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

► Simple, Reliable and Accurate



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 33A/TDe 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 33A/TDe 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 TDe. 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 the screw.

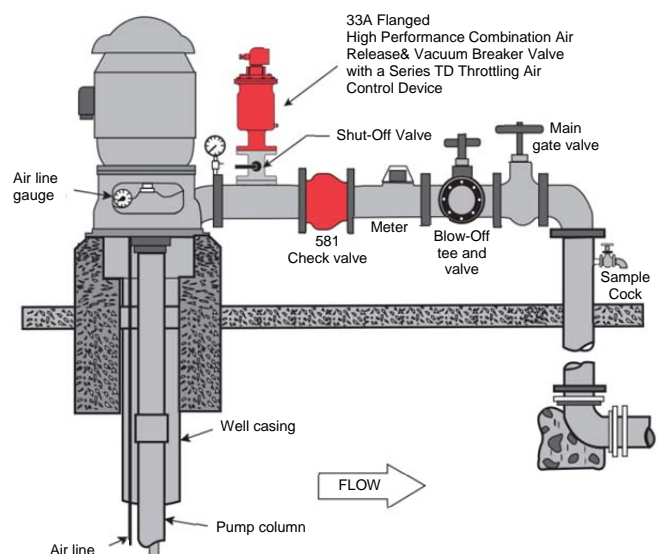
Vacuum Prevent Mode:

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 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 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





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► Dimensions

Valve size [inches]	33A Pressure Class 300 Lb Threaded				33A Pressure Class 150 Lb Flanged (INLET)			33A Pressure Class 300 Lb Flanged (INLET)		
	(**)1"	2"	3"	4"	2"	3"	4"	2"	3"	4"
A [mm]	300	419	470	500	451	552	597	457	559	603
B [mm]	105	191	235	235	191	235	235	191	235	235
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	2" NPT	3" NPT	4" NPT
Number of Holes	-	-	-	-	4	4	8	8	8	8
Diameter of Bolts	-	-	-	-	16	16	16	19	19	19
Approximate calculated shipping weight [kg]	12	15	18	24	18	22	23	19	25	27

* For BSP: ☒ CLA-VAL / (**) 1" size is not UL Listed, ☒ for other available end options

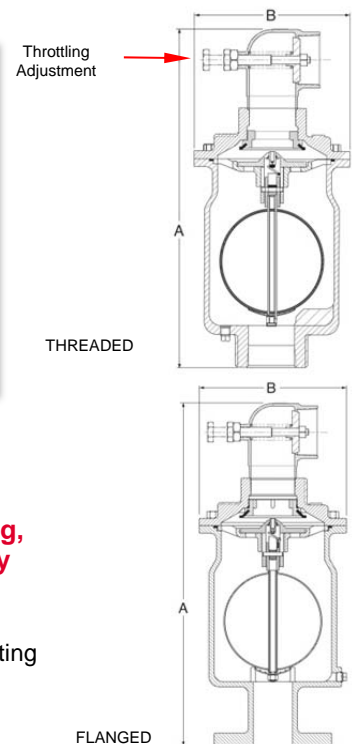
► Pressure Ratings

Valve Size [inch]	Orifice Ø [inch]	Standard Max. Pressure
1"	.076"	300 psi
2"	.076"	500 psi
3" & 4"	.125"	300 psi
3" & 4"	.076"	450 psi

Note: Maximum pressure rating for UL listed 33A/TDe = 300 psi

► 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)



► 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)

Note: Fluorocarbon is not a UL Listed Seal Material

Temperature Range: Water to 4 - 80°C

Optional:

Fusion epoxy lined and coated

For well service throttling device on the outlet specify model TD

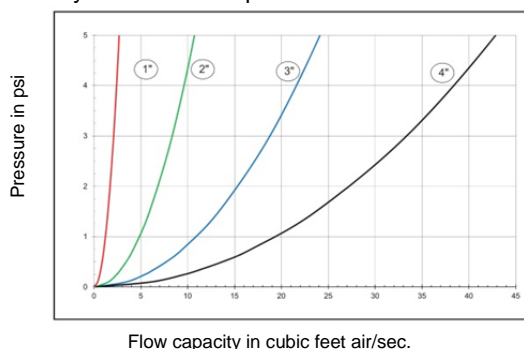
► When Ordering, Please Specify

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 33ATD's may be installed in parallel.



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.

