



# Series 33VB

Sizes 1" - 2" - 3" - 4" - 6" - 8" - 10"

## Vacuum Breaker Valve



Threaded



Flanged

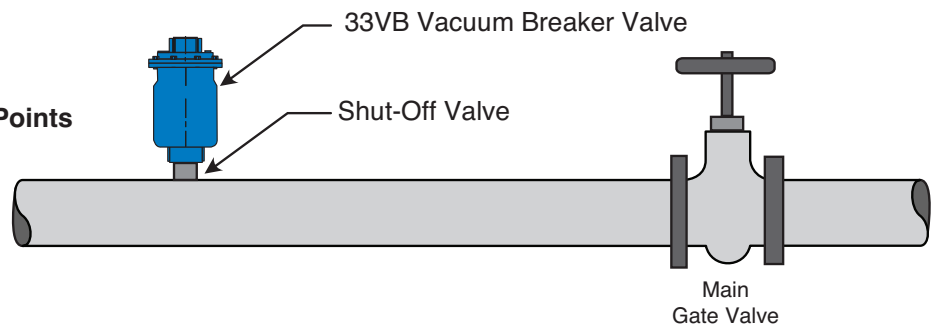
- Fully unrestricted vacuum protection
- 400 psi maximum operating pressure
- Resilient seat included for drip-tight closure
- Large valve orifice allows for air intake at 1/4 psi vacuum
- Standard epoxy coated ductile iron body
- Easily Serviced without removal from pipeline

Designed to protect pipelines from vacuum collapse, the Cla-Val Model 33VB Vacuum Breaker Valve prevents vacuum formation. The valve's large intake orifice freely admits air during pipeline draining.

Valve servicing is simple because the internal components can be replaced without removal of the valve body from the pipeline.

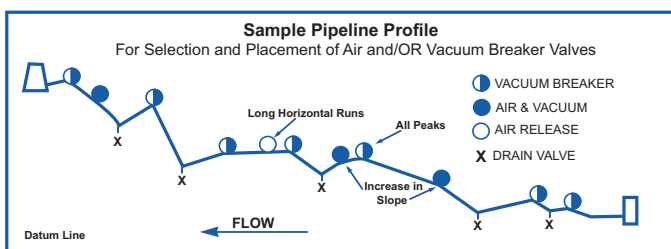
### Typical Applications

- Transmission Pipeline High Points
- Water Treatment Plant Piping High Points



### Installation

Series 33VB Vacuum Breaker Valves are typically installed at anticipated pipeline vacuum occurrence locations.



### Operation

#### Vacuum Prevention Mode

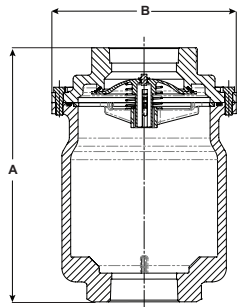
When line pressure drops below positive pressure and the liquid level lowers, the poppet drops, unseating the valve and allowing air into the line, thus preventing a vacuum condition from forming.

**Note:** Available for Seawater Service, see Material Specifications

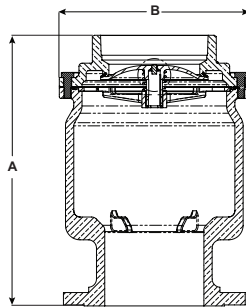
## Dimensions (in Inches)

## MODEL 33VB Sizes - 1" - 2" - 3" - 4" - 6" - 8" - 10"

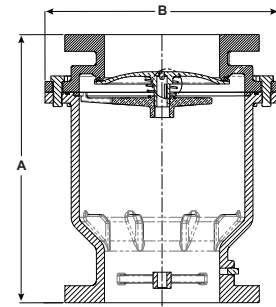
Valve Size	33VB Pressure Class 300 Lb Threaded X Threaded				33VB Pressure Class 150 Lb Flanged X Threaded				33VB Pressure Class 150 Lb Flanged X Flanged	
	1"	2"	3"	4"	2"	3"	4"	6"	8"	10"
A	9.10	12.44	12.75	12.75	13.88	15.56	15.75	16.38	18.62	20.50
B	6.25	7.50	9.00	9.00	7.50	9.25	9.25	11.00	16.25	18.25
Inlet (ANSI)	1" NPT	2" NPT	3" NPT	4" NPT	2"	3"	4"	6"	8"	10"
Outlet (NPT)	1" NPT	2" NPT	3" NPT	4" NPT	2" NPT	3" NPT	4" NPT	6" NPT	8"	10"
Number of Holes	—	—	—	—	4	4	8	8	8	12
Diameter of Bolts	—	—	—	—	.63	.63	.75	.75	.75	.88
Shipping Wt. (Lb.)	25	29	38	40	39	48	50	70	139	206



Threaded x Threaded



Flanged x Threaded



Flanged x Flanged

## Pressure Ratings

Valve Body & Cover		Pressure Class			
		Flanged			Threaded
Grade	Material	ANSI Standards*	150 Class	300 Class	End‡ Details
ASTM A536	Ductile Iron	B16.42	250	400	400
---	All Other Materials	---	285	400	400

Note: \* ANSI standards are for flange dimensions only. Flanged valves are available face faced but not drilled.  
‡ End Details machined to ANSI B2.1 specifications.

## Available Materials

- Epoxy Coated Ductile Iron ASTM A536 65-45-12
- Epoxy Coated Cast Steel ASTM A216WCB
- ASTM B61 Naval Bronze
- ASTM B 148 NI Aluminum Bronze
- 316 Stainless Steel
- Duplex Stainless Steel
- Super Duplex Stainless Steel
- Bronze

## Specifications

### Standard Internals

**Seals:** Nitrile Rubber or Optional Viton®  
**Remainder of Internal Components:** Stainless Steel and Delrin

### Temperature Range

Water to 180° F

### Optional:

1. Hood / Screen Assembly
2. Goose Neck available 1" - 4"

## When Ordering, Specify:

1. Catalog # 33VB
2. Valve Size
3. Pressure Rating
4. Materials

## Valve Sizing Selection

### Large Orifice 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 33VBs may be installed in parallel

