

# The vacuum breaker

The vacuum breaker is designed to prevent vacuum conditions from occurring in pipes or tanks. After a power failure or rapid draining of the system, a vacuum condition often occurs in a pipe or tank. The pressure difference between the inside vacuum and outside air will cause a downward force on the disc. At vacuum the disc will compress the spring and move downward allowing free flow of outside air into the pipe or tank to eliminate the vacuum. When positive pressure is restored in the pipe or tank, the valve will automatically close and seal tightly.

## SBM PTV Vacuum Breaker A-100 general situation

SBM PTV Vacuum Breaker A-100 mainly used in containers or pipelines. When the negative pressure or vacuum gradually rises due to the operation or stop of the system, the valve can automatically open to destroy the vacuum effect, so that the pipeline and other equipment will not collapse or crack and other phenomena to protect the safety of equipment. SBM PTV Vacuum Breaker A-100 are widely used in water supply and drainage, docks, power plants, metallurgy, shipbuilding and other fields to meet the needs of various working conditions.



### How it Works

When the negative pressure in the container exceeds the allowable value, the valve automatically opens and sucks in air . When the negative pressure in the container reaches the allowable value , the valve automatically closes . This protects the equipment and system . Installed in a normal non-negative pressure system, when the container and The system are not opened, and when negative pressure is generated, this valve automatically opens. The setting pressure of this product can be set according to the requirements of the user. The setting pressure is usually 0.01Mpa if it is not specified.

### Installation of Vacuum Breaker A-100

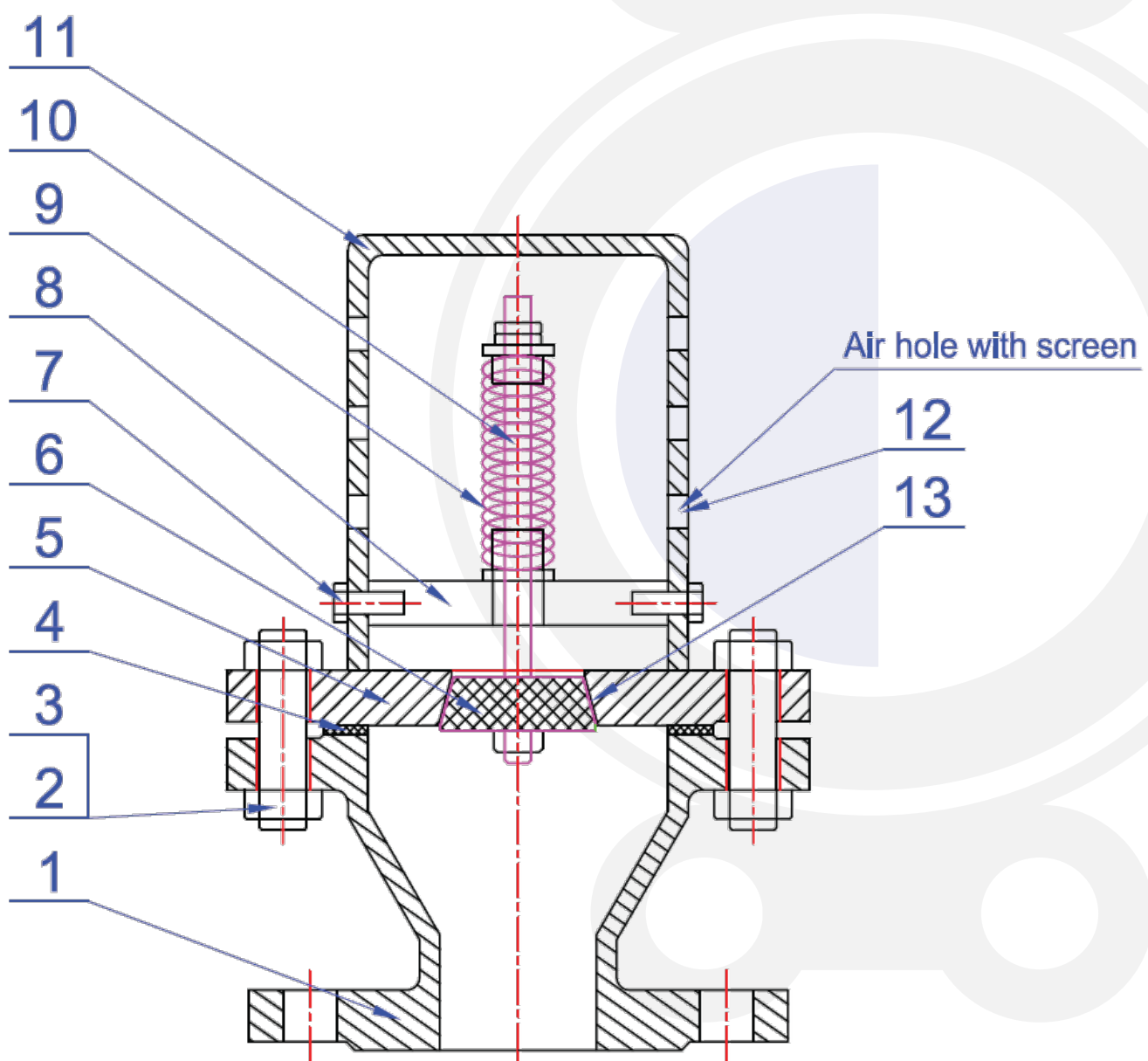
1. The air inlet of the vacuum breaker valve should be installed downwards.
2. The vacuum breaker valve shall be installed in the pipeline outside the wall, and shall not be installed in the fume hood or hood, and shall not be installed in the toxic and harmful gas environment.
3. Vacuum The destruction valve should be installed at the highest point of the water distribution branch pipe, and the vertical distance between the lower edge of the air inlet and the downstream overflow water level shall not be less than 150mm.
4. The minimum clear distance between the air inlet of the vacuum breaker valve and the obstacle below should not be less than the nominal size of the vacuum breaker valve.

## Performance Standard

1. Design & Manufacture standard as to: ASME B16.34
2. Height dimension standard as to: MFR-STD
3. Flange dimension conforms as to: ASME B16.5
4. Testing And Inspection as to: API 598
5. Pressure-temperature conforms as to: ASME B16.34

## Technical Data

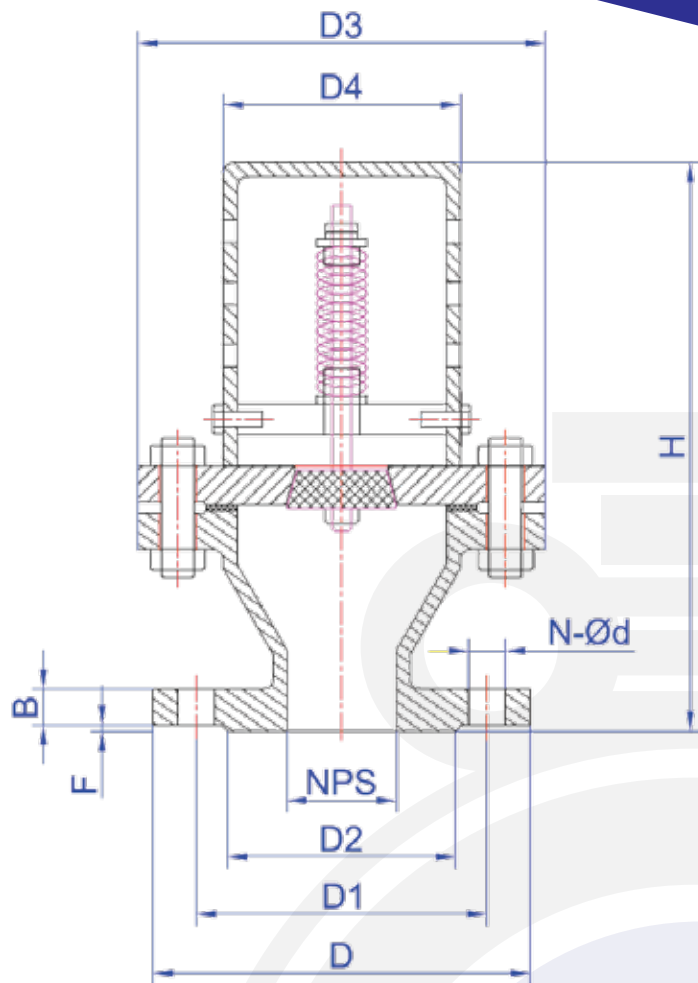
1. Size range: NPS 1"~8"
2. Pressure ratings: 150LB / 300LB
3. Working temperature: -29°C~ +200°C
4. Working pressure: 150LB  $\leq$  290 PSI  
300LB  $\leq$  725 PSI
5. Suitable medium: Water, Oil, Liquid. etc
6. Body material: WCB  
CF8 / CF8M / CF3M  
Duplex 2205 / Duplex 2507
7. Trim material: SS304 / SS316 / SS316L  
Duplex 2205 / Duplex 2507



Part List:

Vacuum Breaker A-100

No.	Part Name	Material	Standard
1.	Body	WCB	ASTM A216
		CF8 / CF8M / CF3M	ASTM A351
		Duplex 2205 / Duplex 2507	ASTM A890
2.	Bolt	B8 / B8M	ASTM A193
3.	Nut	8 / 8M	ASTM A194
4.	Gasket	SS316+Graphite	MFR-STD
5.	Cover	WCB	ASTM A216
		CF8 / CF8M / CF3M	ASTM A351
		Duplex 2205 / Duplex 2507	ASTM A890
6.	Disc	SS316	ASTM A276
		Duplex 2205 / Duplex 2507	ASTM A182
7.	Retainer Bolt	B8M	ASTM A193
8.	Stem Retainer	SS316	ASTM A276
		Duplex 2205 / Duplex 2507	ASTM A182
9.	Spring	SS316	/
10.	Stem	F316	ASTM A182
		F51 / F53	ASTM A182
11.	Cap	WCB	ASTM A216
		CF8 / CF8M / CF3M	ASTM A351
		Duplex 2205 / Duplex 2507	ASTM A890
12.	Screen	SS316	ASTM A276
13.	Seat	RPTFE	MFR-STD



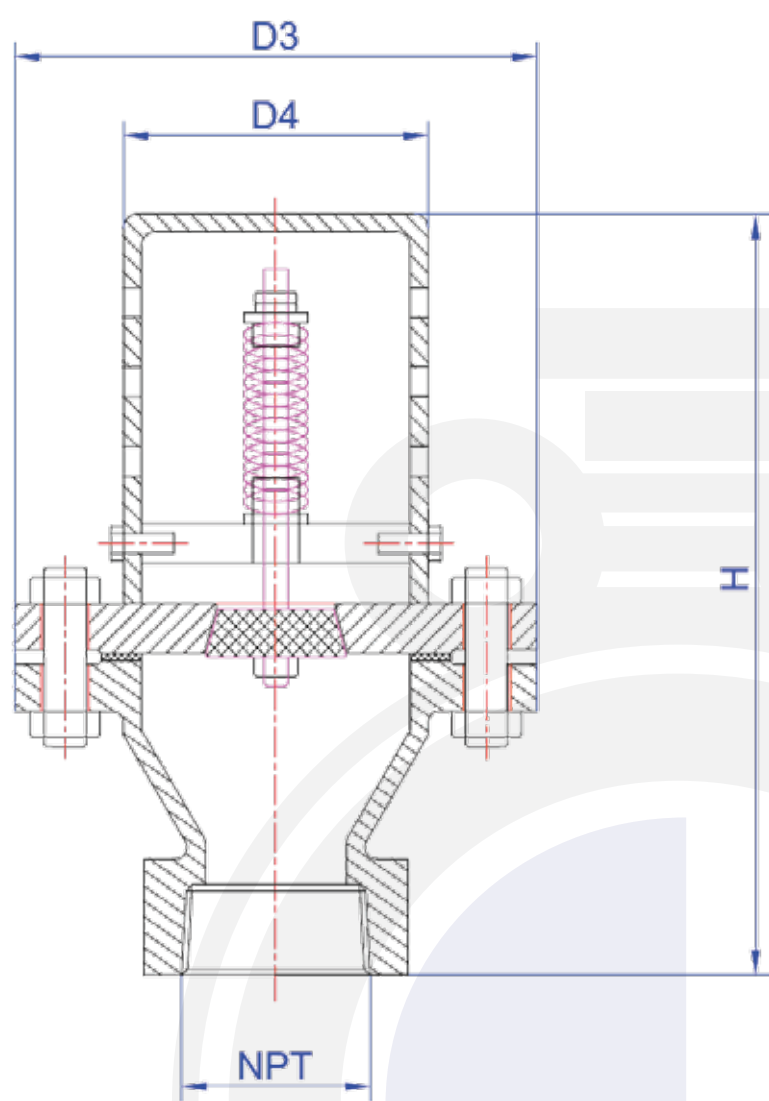
### Main Dimensions:

### Vacuum Breaker A-100 RF Flanged ends RF Class: 150LB

NPS	H	D3	D4	D1	D2	D3	B	N-Φ	F
2"	265	Φ165	Φ89	Φ150	Φ120.7	Φ92	17.5	4-Φ19	2
2 1/2"	285	Φ185	Φ108	Φ180	Φ139.7	Φ105	21	4-Φ19	2
3"	305	Φ210	Φ114	Φ190	Φ152.4	Φ127	22.5	4-Φ19	2
4"	330	Φ230	Φ133	Φ230	Φ190.5	Φ157	22.5	8-Φ19	2
6"	360	Φ280	Φ168	Φ280	Φ241.3	Φ216	24	8-Φ22	2
8"	390	Φ330	Φ219	Φ345	Φ298.5	Φ270	27	8-Φ22	2

### Flanged ends RF Class: 300LB

NPS	H	D3	D4	D1	D2	D3	B	N-Φ	F
2"	265	Φ165	Φ89	Φ165	Φ127	Φ92	21	8-Φ19	2
2 1/2"	285	Φ185	Φ108	Φ190	Φ149.2	Φ105	24	8-Φ22	2
3"	305	Φ210	Φ114	Φ210	Φ168.3	Φ127	27	8-Φ22	2
4"	330	Φ230	Φ133	Φ255	Φ200	Φ157	30.5	8-Φ22	2
6"	360	Φ280	Φ168	Φ320	Φ269.9	Φ216	35	12-Φ22	2
8"	390	Φ330	Φ219	Φ380	Φ330.2	Φ270	40	12-Φ25.5	2



**Main Dimensions:**

**Vacuum Breaker A-100 NPT**

**NPT Threaded**  
**Class: 150LB / 300LB**

NPS	H	D3	D4	NPT
1"	240	Φ120	Φ57	1"
1 1/2"	260	Φ162	Φ89	1 1/2"
2"	265	Φ165	Φ89	2"