

VB-060 PN 16



Disc-Type Spring-Loaded Vacuum Breaker

Description

The VB-060 is a normally closed full bore vacuum breaker which is designed to open fully to allow the intake of air into the pipeline or system when vacuum conditions occur, thus protecting the pipeline. Negative pressure (vacuum) conditions are caused by sudden shut-off of the pumps, pipe ruptures or the rapid draining of the pipeline. The VB-060 can be installed both on potable water lines and on wastewater lines.

Applications

- Pump stations.
- Water transmission lines.

Operation

The VB-060 valve is normally closed. The valve is designed to prevent vacuum conditions from occurring in pipelines and piping systems. After a power failure at the pump or a rapid draining of the pipeline, vacuum occurs. If the pressure differential across the orifice is greater than -0.02 bar, the disc will automatically start to open, allowing air into the pipeline to eliminate negative pressure. At -0.05 bar, the orifice will be fully open, allowing for maximum air intake. When the system returns to positive pressure, the disc will automatically close to tightly seal the valve.

The VB-060 Vacuum Breaker & Air/Vacuum, Automatic Air Release Valve operates similar to the VB-060 Vacuum Breaker with the addition of three other functions:

- 1- The air/vacuum component of the AV will discharge air, essential during pipe filling.
- 2- The vacuum breaker, installed at points where water column separation is anticipated, will open to intake air, then, close quickly to trap the air in the pipeline. The air/vacuum component of the air valve will slowly discharge this trapped air ahead of the returning water column. This will allow the air in the pipeline to act as a buffer against pressure surges and will also, by slowing down the air discharge, slow down the returning water column, prevent upsurges in the pipeline.
- 3- The air release component will release air continuously while the pipeline is operating under pressure, removing entrapped air from the line.

Installation

The VB-060 Disc-Type Spring-Loaded Vacuum Breaker should be installed on water transmission lines at the points where it is determined that vacuum or water column separation will occur.

Main Features

- Size Range: 8" – 24"
- Sealing at low pressure:
VB-060: 0.01 bar / VB-060 + AV: 0.2 bar
- Opening pressure:
VB-060: -0.02 bar / VB-060 + AV: -0.02 bar
- Maximum Working Pressure:
VB-060 8"-10", 14"-24" - 16 bar / VB-060 12" - 25 bar
- Testing Pressure:
VB-060 8"-10", 14"-24" - 25 bar / VB-060 12" - 40 bar
- The VB-060 series is available on both potable water and wastewater applications
- All internal parts made from non-corrosive materials
- Special orifice design, a combination of stainless steel and EDPM, assures long term maintenance-free operation
- The VB-060 is designed in accordance with the AWWA standard C512 and the European standard EN 1704-4
- Valve coating: fusion bonded epoxy in accordance with standard DIN 30677-2

Valve Selection

The VB-060 Vacuum Breaker & Air/Vacuum, Automatic Air Release Valve has the option of adding an air valve to the basic vacuum breaker valve. The type and size of the additional air valve will be dependent on application (water or wastewater) and valve size required.

Please see the table below for all the additional air valve options available.

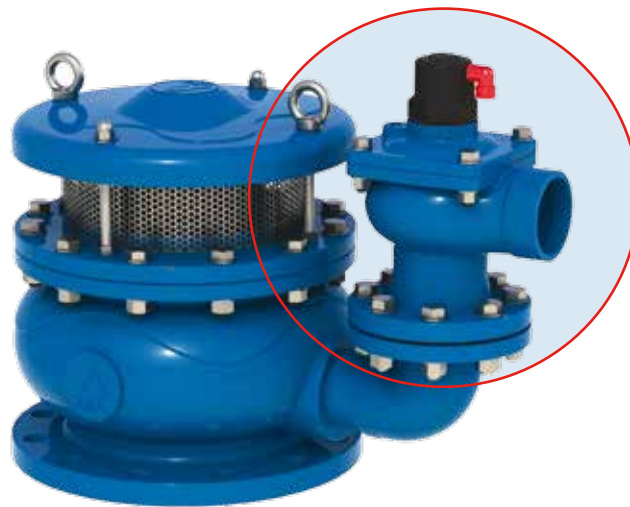


VB-060 + D-070

Note

- For best suitability, it is recommended to send the fluid chemical properties along with the valve request.
- Upon ordering, please specify: model, size, working pressure, thread and flange standard and type of liquid.

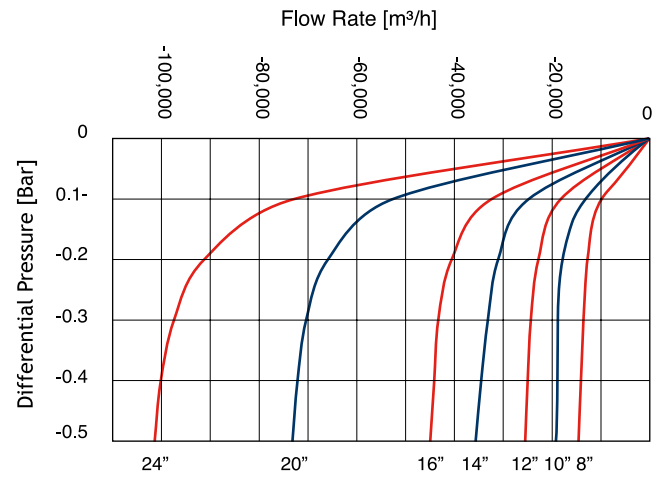
| Vacuum Breaker | Connection Diameter for Air Valve | Type of Air Valve Addition | Working Pressure (bar) | Orifice Area of Air Valve (mm ²) | Remarks |
|----------------|-----------------------------------|----------------------------|------------------------|--|---------------------|
| 8" - 12" | 1" 2" 3" | S-050 1" | 16 | 12 | Nylon valve |
| | | D-040 / C 1" / 2" | 16 | 82 / 804 | Nylon valve |
| | | D-070 2" | 10 | 1963 | Nylon valve |
| | | D-060 2" | 16 | 1960 | Metal |
| | | D-050 2" | 16 | 794 | Metal |
| 14"-16" | 3" | S-050 1" | 16 | 12 | Nylon valve |
| | | D-070 2" / 3" | 10/16 | 1963 / 5153 | Nylon / Metal valve |
| | | D-060 2" / 3" | 16 | 1960 / 5030 | Metal |
| | | D-060 M1 3" | 16 | 1960 | Metal |
| | | D-050 2" / 3" | 16 | 794 / 1809 | Metal |
| 20" - 24" | 4" | D-070 2"/3"/4" | 10/16/16 | 1963 / 5153 / 7850 | Nylon / Metal valve |
| | | D-060 2"/3"/4" | 16 | 1960 / 5030 / 7850 | Metal |
| | | D-060 M1 3" / 4" | 16 | 1960 / 5030 | Metal |
| | | D-050 2"/3"/4" | 16 | 794 / 1809 / 3317 | Metal |



DIMENSIONS AND WEIGHTS

| Nominal Size | A mm | B mm | Weight Kg. |
|--------------|------|------|------------|
| 8" (20mm) | 345 | 420 | 64 |
| 10" (250mm) | 410 | 430 | 90 |
| 12" (300mm) | 485 | 530 | 130 |
| 14" (350mm) | 560 | 600 | 190 |
| 16" (400mm) | 635 | 690 | 240 |
| 20" (500mm) | 770 | 820 | 430 |
| 24" (600mm) | 920 | 1045 | 660 |

AIR INTAKE



PARTS LIST AND SPECIFICATION

| No | Part | Material |
|-----|--------------------|---------------------|
| 1. | Screen Cover | Ductile Iron |
| 2. | Nut | Stainless Steel 316 |
| 3. | Spring Lock | Stainless Steel 316 |
| 4. | Spring | Stainless Steel 316 |
| 5. | Guide Pin | Stainless Steel 316 |
| 6. | Cover Bearing | Bronze |
| 7. | Retainer | Stainless Steel 316 |
| 8. | Disc | Ductile Iron |
| 9. | Circlip | Stainless Steel 316 |
| 10. | Domed Nut & Washer | Stainless Steel 316 |
| 11. | Threaded Rod | Stainless Steel 316 |
| 12. | Screen | Stainless Steel 316 |
| 13. | Bolt, Nut & Washer | Stainless Steel 316 |
| 14. | Cover | Ductile Iron |
| 15. | O-Ring | EPDM |
| 16. | Body | Ductile Iron |
| 17. | Rubber Seal | EPDM |

