Alfa Laval Unique Vacuum Breaker Valve

Control/Check Valves

Introduction

The Alfa Laval Unique Vacuum Breaker Valve is a CIP-able pneumatic check valve that ensures positive pressure, thereby eliminating vacuum conditions on the downstream side of high-temperature, short-time (HTST) pasteurization piping and systems.

Its compact, modular and hygienic design meets the highest process demands in terms of hygiene and safety. Built on the well-proven Alfa Laval Unique SSSV small single seat valve, it features a fast-acting actuator and a single air connection to enable Cleaning-in-Place (CIP).

The valve can be fitted with Alfa Laval ThinkTop V-series for sensing and control of the valve. See ThinkTop datasheets for further details.

Few moving parts ensure easy maintenance, high reliability, and low total cost of ownership.



Applications

The Unique Vacuum Breaker Valve is designed to prevent vacuum conditions in hygienic high-temperature, short-time pasteurization systems across the dairy, food, beverage industries.

Benefits

- Designed for convenient and effective CIP
- Compact, fast-acting and fully automated valve
- Exceptional valve hygiene and cleanability
- Authorized to carry the 3-A symbol

Standard design

The Unique Vacuum Breaker Valve consists of a stainless steel valve body, seals, actuator, a rotating internal ball that moves up and down inside the valve chamber, and clamp rings.

Certificates

Authorized to carry the 3A symbol

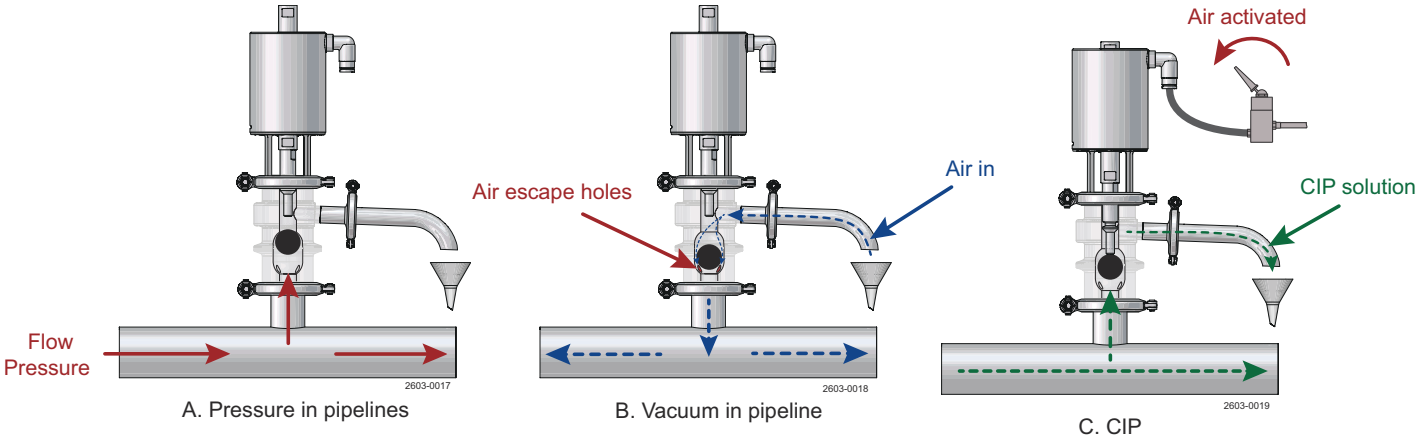
Working principle

The Alfa Laval Unique Vacuum Breaker Valve operates in a manner similar to a ball check valve. When pipelines are pressurized during a process or CIP, the internal ball is forced upward against its seat, closing the vent port (Fig. A).

When pipeline pressure drops, the ball is drawn downward, allowing air to enter the vent, thereby preventing vacuum in the system (Fig. B).

During CIP, a pneumatic actuator is used (pulsed) to force the ball off the upper seat, enabling the seat and the interior of the vacuum breaker valve to be cleaned. CIP fluid is discharged during the actuator pulse and is drained through the vent port (Fig. C).

Working Principle



TECHNICAL DATA

Pressure	
Valve	
Maximum product pressure:	10 bar
Minimum product pressure:	Full vacuum
Actuator	
Maximum air pressure:	7 bar
Minimum air pressure:	5 bar

Temperature	
Temperature range:	-10 °C to 90 °C

PHYSICAL DATA

Materials	
Valve/Actuator	
Product wetted steel parts:	AISI 316L
Product wetted seals:	EPDM
Ball:	Polypropylene HD
Internal surface finish:	Ra ≤0.8 µm
Actuator	
Seals:	NBR
External surface finish:	Blasted

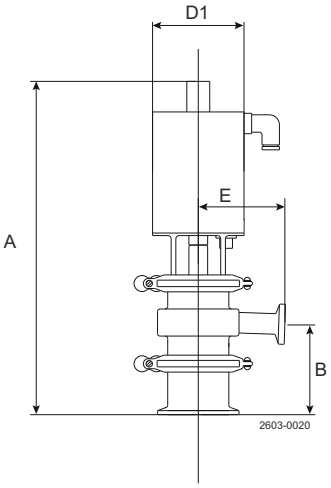
Connections	
Compressed air:	6 mm
Vent:	½" Tri-Clamp
Process/CIP:	1½" Tri-Clamp

Ordering

Please state the following when ordering:

- Unique SSV Vacuum Breaker
- Wetted elastomer preference
- Control Top

Dimensions (mm)



Size	38 mm
A	208
B	56
D[1]	57
E	54
Weight (kg.)	1.85

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