

# Plastics Processing

## VCP Spring-Loaded Pressure Relief Valves



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### Description ▼

VCP Pressure Relief Valves consist of a cylindrical casing with a bottom flange to be connected with a spigot welded on the silo roof, a disc shape inner steel lid for negative pressure operation held in position by a central spring rod, an outside steel ring for excess pressure kept in position by three spring rods, gaskets, and a weather protection cover.

### Function ▼

In the VCP Pressure Relief Valve, helical springs keep the valve lids closed when the pressure value remains within the preset limits. The three outside spring rods keep the external ring-shaped lid firmly closed as long as the force generated by the pressure inside the silo does not overcome the spring force. Once the pressure exceeds the preset value the lid is pushed up and the pressure can escape. The smaller lid covers the central circular opening of the external lid from below. It is held in the middle by a single spring rod and is pressed onto the external lid by the normal air pressure inside the silo. In the event of suction pressure, the spring is compressed and allows the lid to drop. The air entering the silo from outside ensures rapid pressure balance and pushes the central lid back up into the "closed" position.



### Applications ▼

VCP Pressure Relief Valves are the last resort when abnormal pressure conditions endanger the silo structure. This is why sudden excess or suction pressure inside the silo must be dealt with instantaneously. Even though ideally a Pressure Relief Valve should never have to go into action, it must be efficient and reliable if needed.

With tens of thousands of units installed worldwide, VCP Pressure Relief Valves have given evidence of being totally reliable under the most different conditions.

### Benefits ▼

- ✓ Safety for OEM and users thanks to ATEX certification zone 21;
- ✓ No contamination due to metal steel discs and EPDM white seal;
- ✓ Used with different materials in the same configuration;
- ✓ Easy to handle and fit thanks to lightweight design and reduced overall dimensions;
- ✓ Quick maintenance due to few components;
- ✓ Easy maintenance thanks to small numbers of components.



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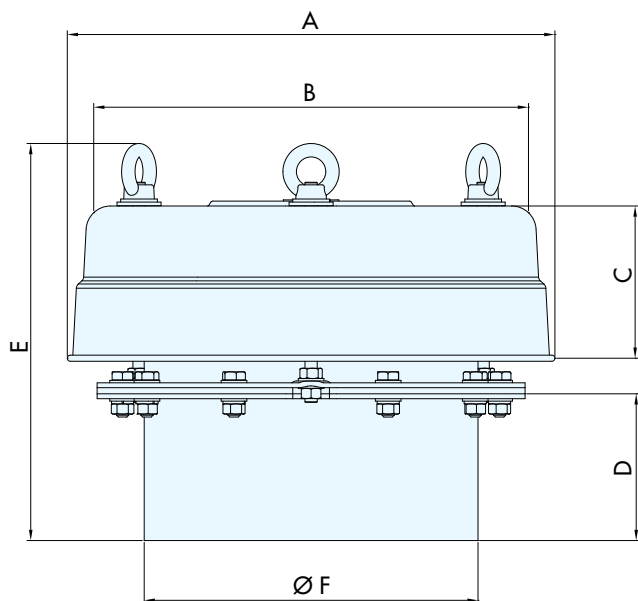


### Technical Features / Performance ▼

- ▶ Carbon steel body (VCP...1C) painted RAL 7001 or 304 stainless steel body (VCP...2C)
- ▶ Size 273mm (11 in) and 356mm (14 in)
- ▶ Weather protection cover in stainless steel
- ▶ ATEX certification (zone 21) and HSE British Guidelines
- ▶ Air volume up to 13,000 m<sup>3</sup>/h (7,650 cfm)
- ▶ Setting range: overpressure from 300mm H<sub>2</sub>O (0.44psi) up to 800mm H<sub>2</sub>O (1.16 psi)
- ▶ Setting range: negative pressure from -50mm H<sub>2</sub>O (0.07psi) up to -100mm H<sub>2</sub>O (0.15psi)
- ▶ No welding seams inside
- ▶ Equipped for inductive signalling sensors
- ▶ Protective bellows for springs
- ▶ White seals for standard or no-contact-with-material applications
- ▶ Small number of components
- ▶ Easy part replacement
- ▶ Lightweight and easy to handle
- ▶ Interchangeable discs

### Overall Dimensions ▼

|     | Size 273<br>MM | Size 375<br>MM |
|-----|----------------|----------------|
| A   | 400            | 525            |
| B   | 356            | 468            |
| C   | 125            | 175            |
| D   | 120            | 120            |
| E   | 325            | 400            |
| Ø F | 273            | 356            |
| kg  | 9.5            | 23             |



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*This datasheet might not show the complete range but only the models most suitable for the application.*