

**S-050** 250 PSI

**S-050-C** 250 PSI

**S-052** 360 PSI



## Automatic Air Release Valve

### Description

The S-050 series automatic air release valve releases accumulated air from the system while it is under pressure. The presence of air in a water system can reduce the effective cross sectional flow area resulting in increased head loss and decreased flow. Unwanted air may also cause water hammer and metering inaccuracies, while hastening corrosion. In spite of its compact and light weight structure, the S-050 series automatic air release valve has a 12mm<sup>2</sup> orifice that enables it to release air at high flow rates and is not exposed to obstruction by debris.

### Applications

- On most types of pumps.
- After filters, pressure reducers and fertilizer injection systems.
- On heads of landscape systems.

### S-050-C S-052

- Water pipelines vulnerable to vandalism and/or water theft.
- Water systems found in remote areas.

### Operation

The automatic air release valve releases entrapped air from pressurized systems.

#### Pockets of accumulated air may cause the following destructive phenomena:

- Impediment of effective flow and hydraulic conductivity of the system along with a throttling effect as would a partially closed valve. In extreme cases this will cause complete flow stoppage.
- Accelerate cavitation damages.
- High- pressure surges.
- Accelerate corrosion of metal parts.
- Danger of a high-energy burst of compressed air.
- Inaccuracies in flow metering.

#### The valve functions while the system is under pressure, according to the following stages:

1. Entrapped air, which accumulates at peaks along the system (where combination air valves should be installed), rises to the top of the valve, which in turn displaces the liquid in the valve's body.
2. The float descends, unsealing the rolling seal. The automatic air

release orifice opens and the accumulated air is released.

3. Liquid penetrates into the valve and the float rises, pushing the rolling seal back to its sealing position.

**Note:** Automatic air release valves are designed to release air as it accumulates at peaks in pressurized systems. They are not normally recommended for vacuum protection or for discharging large volumes of air, because of their inherently small orifices. For this purpose, air & vacuum valves are recommended as they have much larger orifices. However, automatic air release valves will permit air to re-enter the system under vacuum conditions. If this is not desirable, specify the one-way out check valve.

### Main Features

- Working pressure range:
  - S-050 3 - 250 psi.
  - S-050-C 3 - 250 psi.
  - S-052 3 - 360 psi.
- Test pressure for the air valve is 1.5 times its working pressure.
- Maximum working temperature: 140° F.
- Maximum intermittent temperature: 194°F.
- The body is made of high strength composite materials and all operating parts are made of specially selected corrosion- resistant materials.
- The larger than usual orifice enables it to release air at higher flow rates than other automatic air release valves of its kind.
- The enlarged orifice is not exposed to obstruction by debris.
- The valve's rolling seal mechanism design is less sensitive to different pressures than a direct float seal, thus enabling a one size orifice for a wide pressure range (from 3 up to 360 psi).
- Light weight, simple and reliable structure.
- A drainage outlet enables removal of excess fluids.

### Valve Selection

- Available in male threaded sizes: 1/2", 3/4", 1" - NPT
- S-050, pressure rated for 250 psi.
- S-050-C, vandalism protected by a metal shell on the air release component, pressure rated for 250 psi.
- S-052, vandalism protected by a metal shell on the air release

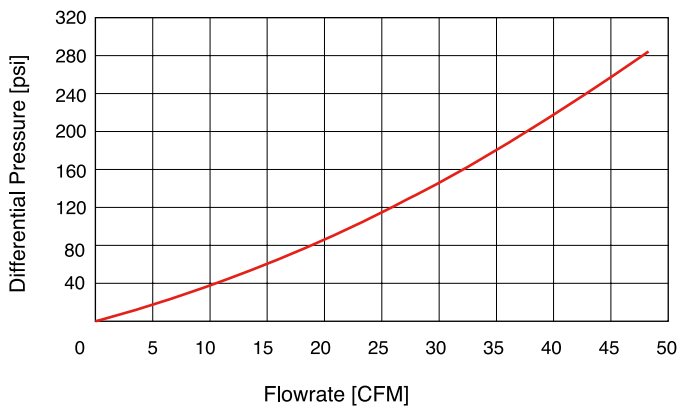
component, pressure rated for 360 psi.

- S-050 V, S-050-C-V: Vacuum check valve - Available as a valve that will only release air from the system and will not admit air to the system when negative pressure conditions occur. This characteristic is obtained by adding a check valve to the air outlet.

- 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, threads standard and type of liquid.**

## AIR RELEASE FLOWRATE

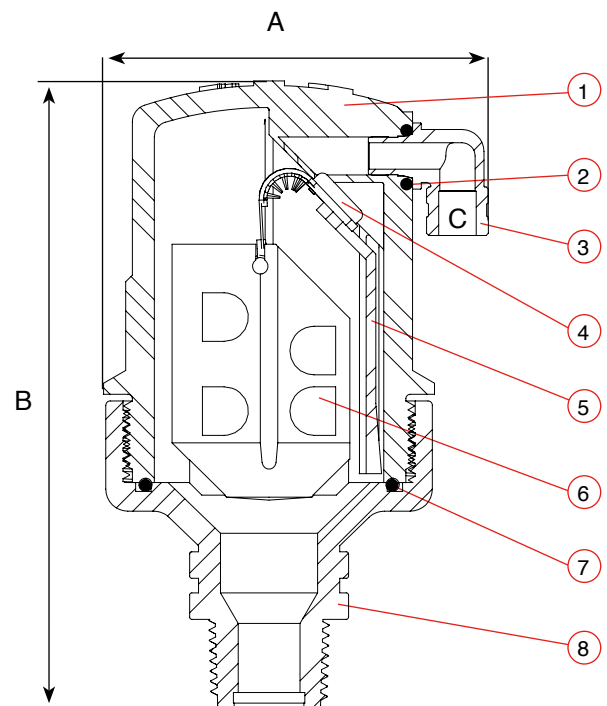


## DIMENSIONS AND WEIGHT

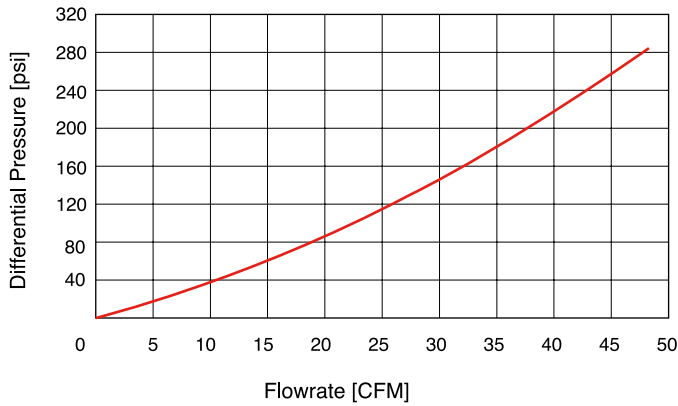
| Model    | Dimensions Inch |     | Connection<br>C | Weight<br>Lbs. | Orifice Area<br>Sq.in |
|----------|-----------------|-----|-----------------|----------------|-----------------------|
|          | A               | B   |                 |                |                       |
| S-050    | 3.9             | 5.5 | 1/8" NPT        | 0.66           | 0.0186                |
| S-050 ST | 3.9             | 5.5 | 1/8" NPT        | 1.43           | 0.0186                |
| S-050 V  | 4               | 5.5 | 1/4" NPT        | 0.7            | 0.0186                |

## PARTS LIST AND SPECIFICATION

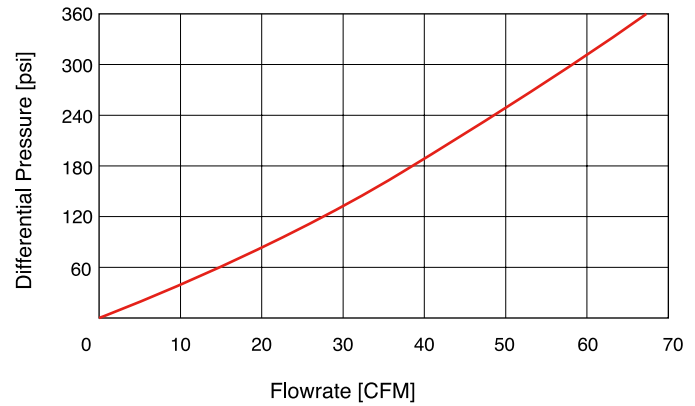
| No. | Part             | Material  |
|-----|------------------|---|
| 1.  | Body             | NSF 61 Certified Reinforced Nylon                                 |
| 2.  | O-Ring           | NSF 61 Certified NBR 70   |
| 3.  | Discharge Outlet | NSF 61 Certified Polypropylene                                    |
| 4.  | Rolling Seal     | NSF 61 Certified E.P.D.M  |
| 5.  | Clamping Stem    | NSF 61 Certified Reinforced Nylon                                 |
| 6.  | Float            | NSF 61 Certified Foamed Polypropylene                             |
| 7.  | O-Ring           | NSF 61 Certified NBR 70   |
| 8.  | Base             | NSF 61 Certified Reinforced Nylon /Stainless Steel ASTM A744 CF84 |



## S-050-C AIR RELEASE FLOWRATE



## S-052 AIR RELEASE FLOWRATE



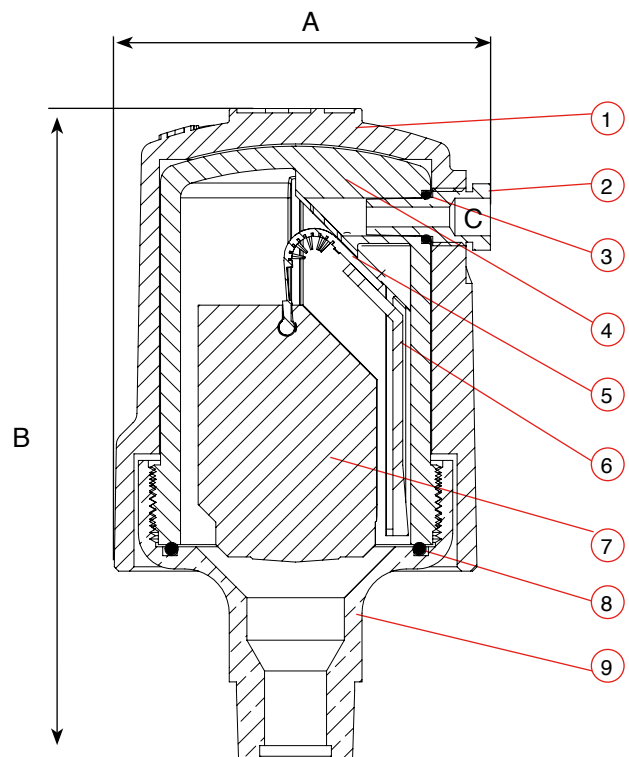
## DIMENSIONS AND WEIGHT

| Model     | Dimensions Inch |     | Connection<br>C | Weight<br>Lbs. | Orifice Area<br>Sq.in |
|-----------|-----------------|-----|-----------------|----------------|-----------------------|
|           | A               | B   |                 |                |                       |
| S-050-C   | 3.3             | 5.8 | 1/8" NPT        | 3.63           | 0.0186                |
| S-052     | 3.3             | 5.8 | 1/8" NPT        | 3.63           | 0.014                 |
| S-050-C V | 4.1             | 5.8 | 1/4" NPT        | 3.85           | 0.0186                |



## PARTS LIST AND SPECIFICATION

| No. | Part             | Material  |
|-----|------------------|---|
| 1.  | Shell            | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 2.  | Discharge Outlet | Brass   |
| 3.  | O-Ring           | NSF 61 Certified NBR 70                           |
| 4.  | Body             | NSF 61 Certified Reinforced Nylon                 |
| 5.  | Rolling Seal     | NSF 61 Certified E.P.D.M. 61                      |
| 6.  | Clamping Stem    | NSF 61 Certified Reinforced Nylon                 |
| 7.  | Float            | NSF 61 Certified Foamed Polypropylene             |
| 8.  | O-Ring           | NSF 61 Certified NBR 70                           |
| 9.  | Base             | Stainless Steel ASTM A744 CF84                    |





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