

# S-050 L PN 10 / 16



## Automatic Air Release Valve

### Description

The S-050 L 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.

The valve's unique design enables the separation of the liquid from the sealing mechanism by building an air gap, assuring optimum working conditions.

### Applications

- Water transmission lines.

### Operation

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

**Without air release valves, pockets of accumulated air may cause the following hydraulic disturbances:**

- Restriction of effective flow due to a reduction of the flow area. In extreme cases this will cause complete flow stoppage.
- Obstruction of efficient hydraulic transmission due to air flow disturbances.
- Acceleration of cavitation damages.
- Increase in pressure transients and surges.
- Internal corrosion of pipes, fittings and accessories.
- Dangerous high-energy bursts of compressed air.
- Inaccuracies in flow metering.

**As the system fills and is pressurized, the automatic air release valve functions according to the following stages:**

1. Entrapped air, which accumulates at peaks and along the system, rises to the top of the air valve, which in turn displaces the liquid in the air valve body.
2. The float drops, unsealing the rolling seal. The automatic air release orifice opens and the accumulated air is released.
3. Liquid enters 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, air release valves will permit air to enter the system under vacuum conditions. If this is not desirable, specify the one-way out check valve.

### Main Features

- Working pressure range:  
Polypropylene: 0.02 - 10 bar  
Reinforced Nylon: 0.05 - 16 bar
- Test pressure for the air valve is 1.5 times its working pressure.
- Maximum working temperature: 60°C.
- Maximum intermittent temperature: 90°C.
- Builds an air gap that separates the liquids with suspended particles from the sealing mechanism.
- The body is made of high strength composite materials and all operating parts are made of specially selected corrosion-resistant materials.
- The unique float design guarantees air release even at maximum working pressure.
- The built-in air gap keeps the sealing area clear of 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 (up to 16 bar).
- Lightweight, simple and reliable structure.
- A discharge outlet enables the connection of a vent pipe.

### Valve Selection

- Available in male threaded sizes: 1/2", 3/4", 1" - BSP / NPT

### 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.

## DIMENSIONS AND WEIGHTS

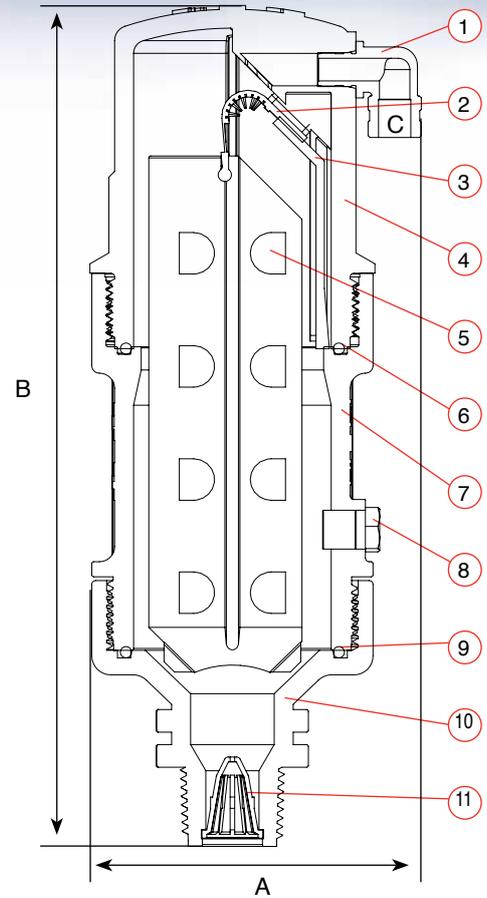
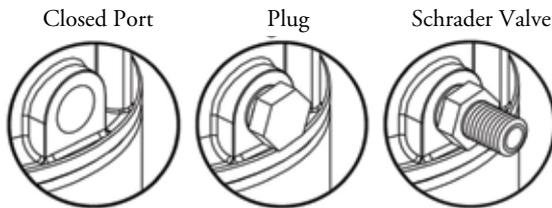
Nominal Size	Dimensions mm		Connection C	Weight Kg.	Orifice Area mm <sup>2</sup>
	A	B			
1/2", 3/4", 1"	88	223	1/8" BSP Female	0.34	12

## PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Air Release Outlet	Polypropylene
2.	Rolling Seal	E.P.D.M. / Viton
3.	Clamping Stem	Reinforced Nylon
4.	Body	Reinforced Nylon / Polypropylene
5.	Float	Foamed Polypropylene
6.	O-Ring	BUNA-N / Viton
7.	Extension	Reinforced Nylon / Polypropylene
8.	Closed Port* (default)	
9.	O-Ring	BUNA-N / Viton
10.	Base	Reinforced Nylon / Polypropylene
11.	Strainer	Nylon

\* Optional Threaded Open Port

- 1/8" BSP/NPT with Schrader Valve
- 1/8" BSP/NPT with Plug



## AUTOMATIC AIR RELEASE FLOW RATE

