

S-050 LP PN 6



Automatic Air Release Valve for Low Pressure

What is a low pressure air valve?

The low pressure air valve sealing mechanism is built with a very soft and sensitive seal. On one hand, it enables the full and effective discharge of air and, on the other hand, the air valve will close and seal tightly when water fills the valve, even if the water pressure is particularly low. Most other air valves are built so that it takes a higher minimum sealing pressure to effectively seal the valve. The ARI air valve requires a minimum water pressure of just 0.2 bar (3psi) to effectively seal. Low pressure air valves are designed to prevent water leaks through the discharge orifice of the air valve.

Description

The S-050 LP 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 LP series Automatic Air Release Valve has a 12mm² 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.

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: 0.05 - 6 bar
- Test pressure for the air valve is 1.5 times its working pressure.
- Maximum working temperature: 60°C.
- Maximum intermittent temperature: 90°C.
- 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 less 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 0.05 up to 6 bar).
- Lightweight, simple and reliable structure.
- A discharge outlet enables removal of excess fluids.

Valve Selection

- Available in male threaded sizes: 1/2", 3/4", 1" - BSP / NPT
- For best suitability, it is recommended to send the fluid chemical properties along with the valve request.

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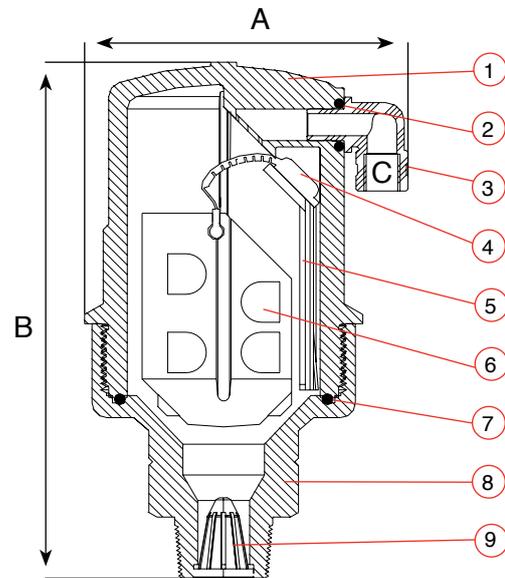
Upon ordering, please specify: model, size, working pressure, thread and flange standard and type of liquid.

DIMENSIONS AND WEIGHTS

Model	Dimensions mm			Weight Kg.	Orifice Area mm ²
	A	B	C		
1", 1/2", 3/4"	87	143	1/8"	0.3	12

PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Body	Polypropylene / Reinforced Nylon
2.	O-Ring	BUNA-N
3.	Air Release Outlet	Polypropylene
4.	Rolling Seal	Silicone
5.	Clamping Stem	Reinforced Nylon / Polypropylene
6.	Float	Foamed Polypropylene
7.	O-Ring	BUNA-N
8.	Base	Polypropylene / Reinforced Nylon
9.	Strainer	Nylon



AUTOMATIC AIR RELEASE FLOW RATE

