



S-010 HW PN 16



Automatic Air Release Valve for Hot Water

Description

The S-010 Automatic Air Release Valve releases accumulated air from the system while it is under pressure.

The presence of air in a liquid transmission 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.

Operation

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

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

- Restriction of effective flow due to a throttling effect as would a partially closed valve. In extreme cases this will cause complete flow stoppage.
- Obstruction of efficient hydraulic transmission due to air flow disturbances.
- Accelerate cavitation damages.
- Pressure transients and surges.
- Corrosion in pipes, fittings and accessories.
- 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 and along the system, rises to the top of the valve, which in turn displaces the liquid in the valve's body.
2. The float descends, unsealing the air release orifice. The automatic air release orifice opens and the accumulated air is released.
3. Liquid enters the valve and the float rises, pushing the float and rubber seal 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.

Main Features

- Working pressure range: 0 – 16 bar (PN16)
- Sealing pressure range: 0.2 - 16 bar
- Test pressure: 1.5 times the working pressure
- Working temperature: -40° C up to 130° C.
- Maximum intermittent temperature: 160° C.

Note: For applications requiring a working temperature above or below the stated working temperatures, please consult first with the A.R.I. Applications Engineering Dept.

- Lightweight, simple and reliable structure.
- The discharge outlet elbow enables the connection of a vent pipe.

Valve Selection

- Size Range: ½", ¾", 1"
- The air release valve is available with a male threaded BSP or NPT connection.

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	Weight Kg.	Orifice Area mm ²
	A	B			
1/2" 3/4" 1"	132	220	1/4" BSP Female	4	0.785

PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Discharge Outlet	Stainless Steel SAE 316
2.	Cover	Stainless Steel SAE 316
3.	O-Ring	EPDM
4.	Sealing Seat	Stainless Steel SAE 316 + Viton
5.	Bolt, Nut & Washer	Stainless Steel SAE 316
6.	Float	Stainless Steel SAE 316
7.	Screen Basket	Stainless Steel SAE 316
8.	Body	Stainless Steel SAE 316
9.	Male Adaptor	Stainless Steel SAE 316

AUTOMATIC AIR RELEASE FLOW RATE

