



S-020

PAT. PEND



Automatic Air Release Valve for Wastewater

Description

The Automatic Air Release valve discharges accumulated air from the system while it is under pressure.

The presence of air in a wastewater system can reduce the effective cross sectional flow area resulting in increased pressure loss and decreased flow.

Unwanted air may also cause water hammer and metering inaccuracies, while hastening corrosion.

Operation

A.R.I. model S-020 is an automatic air release valve for wastewater systems. As the sewage level rises and enters the valve, the float and the seal plug assembly also rise, to close the valve, drip-tight. The entrapped air, which is at system pressure, creates an air pocket between the sewage and the sealing mechanism. The conical shape of the valve body ensures complete separation of the sewage from the seal plug assembly. The spring loaded connection of the float and sealing mechanism, allows for minor increases and decreases in the system pressure, without opening the sealing mechanism. As air and gas accumulate and displace the sewage in the valve body, the liquid level is lowered and the float loses buoyancy. As the float drops, the flexible rolling seal rolls away from the orifice opening. The accumulated air and gas is released through the open orifice. The liquid refills the valve and the float rises again to roll back the flexible seal against the orifice opening, which seals the orifice. The remaining air gap prevents the sewage from reaching the sealing mechanism and interfering with drip-tight sealing.

Note that automatic air valves are specifically designed to release air as it accumulates at the high points of a pressurized, operating system. Because of their inherently small orifices, they are not recommended for vacuum protection or for venting large quantities of air or gas, although they will admit some air into the system under vacuum conditions.

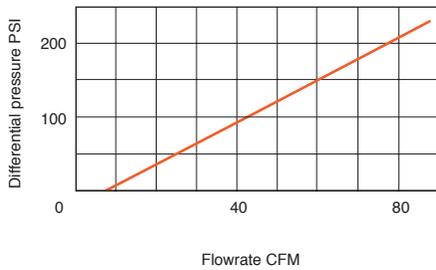
Main Features

- Working pressure range: 3 - 250 psi.
- Testing Pressure : 360 psi
- Working Temperature: 140° f
- Maximum working temperature for short time period: 194° f.
- Conical body shape maintains maximum air gap, and spring loaded float and seal plug connection, combine to ensure no contact between the wastewater and the seal.
- Funnel shaped lower body automatically drains sewage into the system, allowing valve internals to remain clean and unobstructed.
- Rolling, resilient seal, provides smooth positive opening, closing, and leak free sealing, over a wide range of pressure differentials.
- Internal metal parts are made of corrosion resistant stainless steel.
- Drainage port with ball valve is provided.

Valve Selection

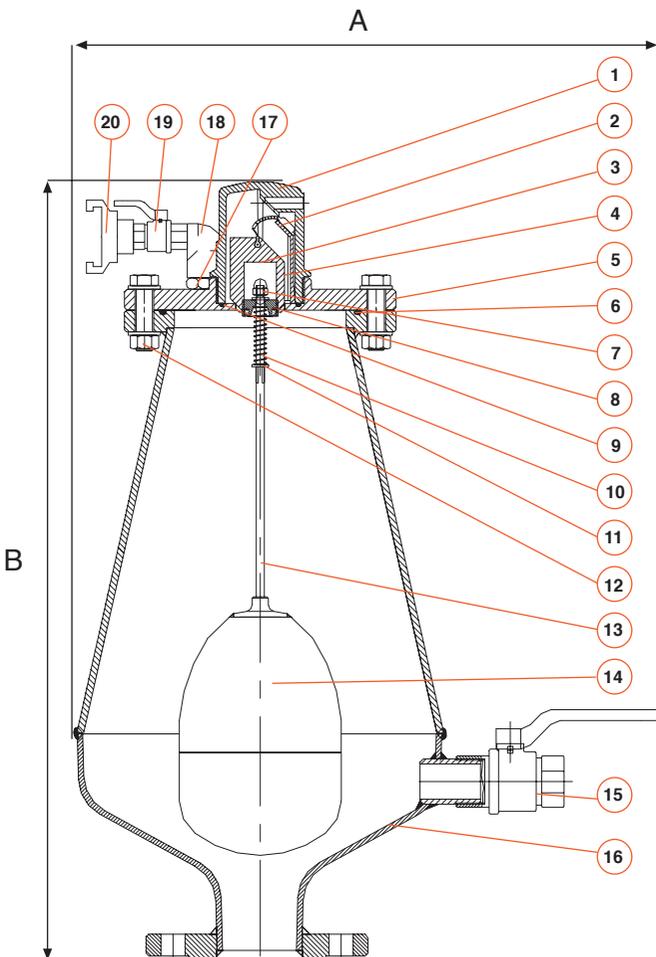
- These valves are manufactured with flanged ends to meet ASA 150 standard or any requested standard. The 2" valve is also available with NPT male threads.
- These valves are available with body of stainless steel or steel DIN ST.37 FBE coated.

AUTOMATIC AIR RELEASE



DIMENSIONS AND WEIGHT

Nominal Size	Dim. In.		Weight Lbs	Orifice Area Sq.in
	A	B		
2" Threaded	16.8	22.65	35.3	0.0186
2" Flanged	16.8	22.65	37.5	0.0186
3"	16.8	22.65	39.7	0.0186
4"	16.8	22.65	41.9	0.0186



PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Body	Reinforced Nylon
2.	Rolling Seal	Rubber E.P.D.M.
3.	Float	Foamed Polypropylene
4.	Clamping Stem	Reinforced Nylon
5.	Cover	St.St.SAE 316 /Reinforced Nylon
6.	O-Ring (COVER)	BUNA-N
7.	Domed Nut	Stainless Steel SAE 316
8.	Stopper	Polypropylene
9.	O-Ring	BUNA-N
10.	Spring	Stainless Steel SAE 316
11.	Washer	Stainless Steel SAE 316
12.	Bolts and Nuts	Stainless Steel SAE 316
13.	Stem	Stainless Steel SAE 316
14.	Float	Polycarbonate / St. St. SAE 316
15.	Ball Valve	Stainless Steel SAE 316
16.	Body	St.St.SAE 316 / Steel DIN ST.37
17.	Nipple	Brass
18.	Angle	Brass
19.	Ball Valve	Brass Chrome Plated
20.	Male Quick Coupler	Brass