



# Air Release Valves

The Supreme Industries Ltd. is an acknowledged leader of India's plastic industry. A comprehensive range with a vast spectrum of pipes and fittings around 7500 diverse products caters to almost every conceivable application segments. After successfully introducing many innovative speciality valves like ball valves, butterfly valves, swing check valves, NRVs etc., The Supreme is pleased to introduce a uniquely designed product "Air Release Valve". These valves are designed and used in pressure piping systems.

Air valves are fitted to release the air automatically when a pipeline is being filled and also to permit the air to enter the pipeline when it is being emptied. Additionally air valves also release any entrapped air which might accumulate at high points in the pipeline during normal operations. In absence of ARVs accumulated air and vacuum can cause problems like pipe rupture, bursting, squeezing etc.



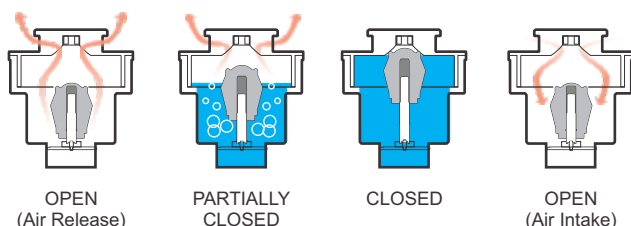
## Unique features

- Compact double action design
- Lighter, simple and reliable
- Robust construction made from composite plastic
- Durable to last a lifetime
- Easy to install and maintain
- Excellent chemical and corrosion resistance
- UV stabilized
- Available in ¾" to 2" sizes

## Need of air release valves in a pipeline

Entrapped air in pressure piping system can adversely affect its operation. Air pockets in pipe reduces the effective cross section of the pipe, this reduces the flow efficiency and increases power required for pumping. Big air pockets can create flow restrictions called as airlocks. This causes pressure surge, pipe rupture, damages to metering devices & control valves. On the other hand, when negative pressure occurs in a system, there is a need of air to get admitted into the pipeline to protect it from squeezing.

## Working Mechanism



Supreme double action Air Release Valves are designed to expel the air from pipeline and it also allows air into the pipeline. It discharges air from the pipeline at high flow rates during the filling of the pressure piping system. It also admits the air into the pipeline during separation of water column or in emptying situation leading to vacuum formation. Initially when the float of valve is at the bottom rest position, air travelled with flowing water through the empty pipeline is released through top orifice of the valve. As the air is fully released and water reaches to the valve, the float is lifted up with water and valve is sealed and does not allow water to go out. When pressure in the pipeline falls below atmospheric pressure the float drops to its original position and orifice opens to admit the air into the system immediately.

## Product Range

Std. Dia.	Pressure Class	Type of Joint
20	PN 10	Female Threaded
25	PN 10	Male Threaded
32	PN 10	Male Threaded
40	PN 10	Male Threaded
63	PN 10	Solvent Weld

## Applications:

- Lift Irrigation projects
- Drinking water supply lines
- Agricultural & drip irrigation supply lines
- Housing projects
- Any pressure or non pressure pipelines

## Installation Procedure :

1. Size and locations of the air release valve should be decided in consultation with an engineer, normally size of air release valve should be 1/4<sup>th</sup> to 1/6<sup>th</sup> of the pipe diameter.
2. Hole on the pipeline should be made of full size in accordance with size of the branch pipe used for connecting valve.
3. Service saddle or strap saddle should be used for making the branch connection for fixing air release valve.
4. For fixing ARV on branch connection MTA or FTA should be used.
5. After installation, ensure that air valve is operating properly without any leakage.
6. Air valve should be properly protected by suitable encasing or by constructing the chamber around it.
7. Air valves should be periodically opened and cleaned, if required ball or sealing element should be replaced.
8. It is recommended that the air valve should be installed at a distance of every 1200 feet for trouble free operation of the pipeline.
9. For safe operation of pressure piping system, generally air valves should be provided at all peaks with respect to maximum hydraulic gradient. Additionally it is required just after the pump in delivery line.

## Diagrams showing use of air valves:

