LEHRY VALVES
Where flow and pressure meets quality
SINCE-1950

AUTOMATIC AIR RELEASE VALVE

LEHRY Automatic Air Release Valve provide longer service life and cost effective maintenance. With Cast Iron / Ductile iron Body, MS cover and cowl it has a pressure rating of PN 16 & 25. Is ideally suited for turbid / clean water and for sewage application.

Air in a pressurized, operating pipeline comes from three primary sources. First, prior to start-up, the line is not empty - it is full of air. To entirely fill a pipeline with fluid, it is necessary to eliminate this air. As the line fills, much of this air will be pushed downstream to be released through hydrants, faucets, etc. but a large amount will become trapped at system high points (Figure 1). This phenomenon will occur because air is lighter than water and therefore, will collect at the high points. This air will continuously be added to by the second and third sources as the system continues operation.
Source number two is the water itself. Water contains approximately 2% air by volume. During system operation, the entrained air will continuously separate out of the water and once again accumulate at system high points. To illustrate the potential massive amount of air this 2% represents, consider the following: A 1000 ft. length of pipe could contain a pocket of air 20 ft. long if all the air accumulated in one location. Or a one mile length of pipe could contain a 100 ft. pocket of air. This would be true regardless of the diameter of the pipe.

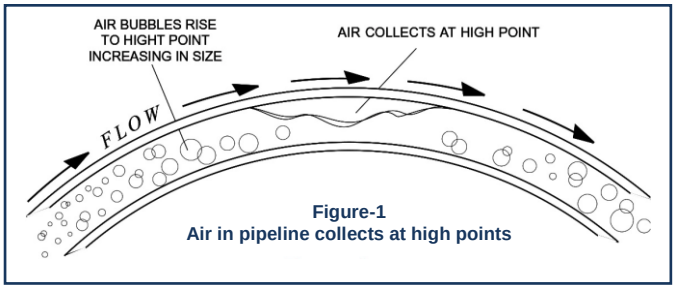


Figure-1
Air in pipeline collects at high points

The third source of air is that which enters through mechanical equipment (Figure 2). This includes air being forced into the system by pumps as well as air being drawn in through packing, valves, etc. under vacuum conditions. As one can see, a pressurized pipeline is never without air and typically the volume is substantial.

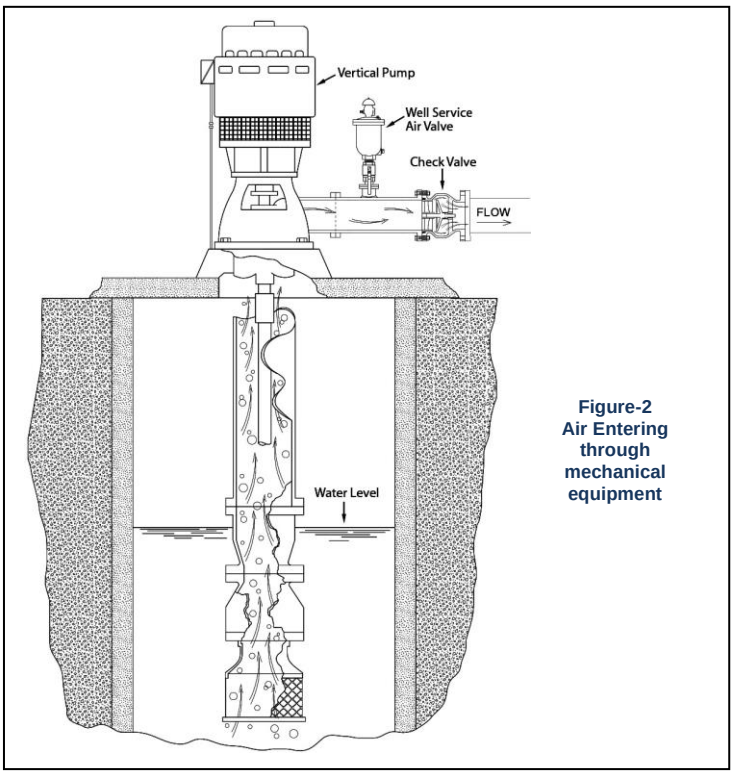


Figure-2
Air Entering through mechanical equipment

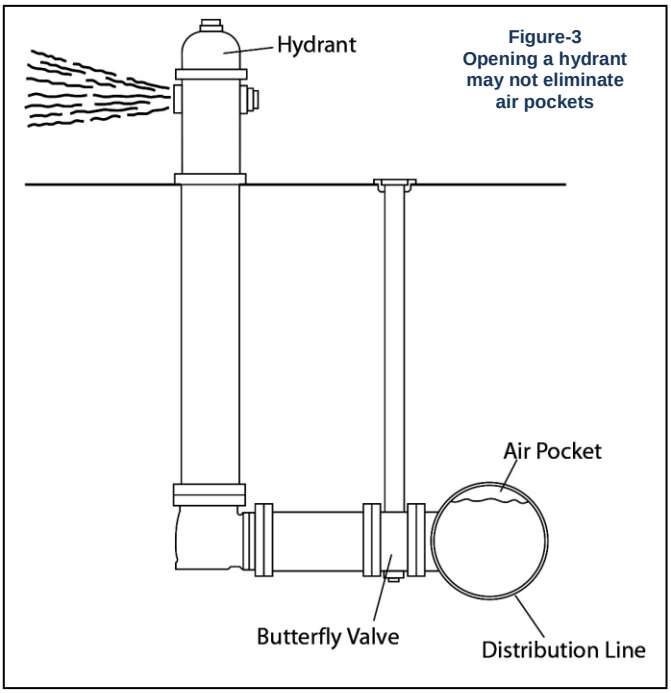


Figure-3
Opening a hydrant may not eliminate air pockets

IMPACT OF AIR ON SYSTEM

As we can see, air in a pressurized pipeline is a serious concern. Obviously, its removal will result in a more efficient, cost effective operation and potentially avoid more serious problems. In the early 1900's, engineers and water works personnel started developing an understanding of the problems associated with air and the search for a solution began. Some depended on standpipes, believing that a large portion of the air would be expelled through them.

Many began placing gate or ball valves at system high points to manually bleed off accumulated air. Unfortunately, it has proved impossible to predict when it is time to bleed the air. This proved impractical, especially on larger systems. Open fire hydrants (Figure 3) are frequently used under the assumption that all air in the pipeline will be released.

Unfortunately, hydrants are generally connected to the side of the pipe, leaving air trapped at the top and at system high points. It should be noted that there are still municipalities using these methods.

Features:-

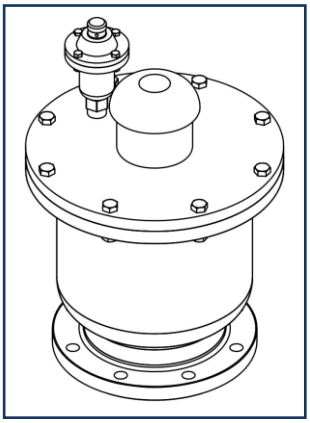
- Maintains system flow efficiency
- Protects system against air related surges
- Unconditionally guaranteed stainless steel floats
- Robust Design with high flow character

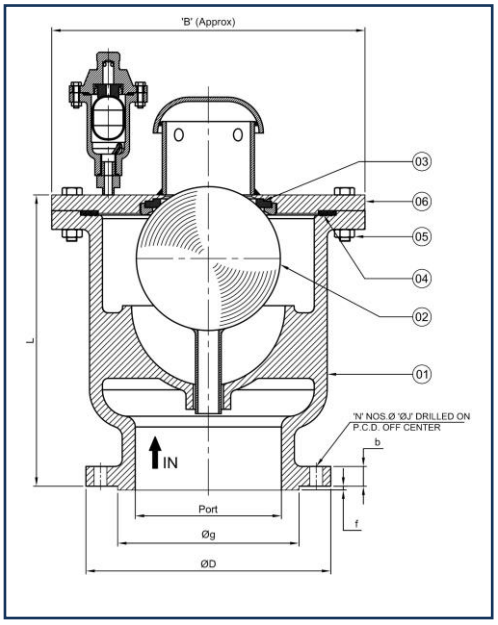
Technical Data: -

- Manufacturing STD. : AWWA C512
- Internal : SS.304
- End Connection : Flanged Ends to ASME B – 16.1 125#
  : Flanged Ends to ASME B – 16.5 150#
- Inspection & Testing STD. : AWWA C512
- Application : Release Air
- Service : Raw Water

Pressure

Hydrostatic Test Pressure		
PN - Rating	**Body**	**Seat**
1.6	24 Kg/Cm²	16Kg/Cm²
2.5	37.5 Kg/Cm²	25Kg/Cm²





Material of Construction

No	Description	Material
1	Body	DI / CI
2	Float with Guide Pipe	SS.304
3	Nozzel	SS
4	Gasket	NBR
5	Bolts & Nuts	Carbon Steel
6	Cover	DI / SGI

Dimensions

(All Dimensions are in mm)

Tolerance	+1mm	±3mm	+2mm -1mm	+3mm	±1mm	±0.5mm			±1.5mm	±3mm
Size	**Port**	**B**	**ØD**	**b**	**Øg**	**f**	**ØJ**	**N**	**PCD**	**L**
40MM	40	180	125	12.7	73	2	16	4	98.4	160
50MM	50	180	150	14.3	92.1	2	19	4	120.7	160
80MM	80	270	190	17.5	127	2	19	4	152.4	250
100MM	100	270	230	22.3	157.2	2	19	8	190.5	253
150MM	150	385.5	280	23.9	215.9	2	23	8	241.3	293.5
200MM	203	435	345	27	269.9	2	23	8	298.5	405
300MM	300	485	485	30.2	381	2	25.4	12	431.8	698

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