



# AIR VALVE FOR WATER SYSTEMS

## FUNCTION

Air Valves are regularly used to provide the following requirements on water mains :

- (1) To release air when the Main is being filled, and to close and remain closed when the pipe is full to prevent loss of water. Also, to open and admit air when the main is being emptied.
- (2) To release air accumulating under pressure during normal working conditions in the pipe, again without loss of water.

In case of (1) a relatively large orifice is employed giving a high rate of discharge. The valve, a buoyant ball in water, seals the orifice when main filling is complete and is held there by the line pressure until such times as the main is shut for emptying.

For (2) the ball leaves its seating under pressure when water in the chamber is displaced by a accumulated air. A comparatively small-sized orifice is used, of a diameter sufficient to ensure reliable working, while allowing of convenient ball and casting dimensions for an ample range of regular working pressures.

## SINGLE AIR VALVE

For (1) Single Air Valve with large orifice is required, with the main empty the ball float is at the bottom of its travel and the orifice is open.

For (2) Single Air Valve with small orifice is required, under operational conditions the ball is normally held against the seating of the small orifice.

## DOUBLE AIR VALVE

Double Air Valves are available with isolating valve (type h-40) or without Isolating valve (Type H-7)

This Valve has one large orifice for release and admission of air when filling and emptying the main respectively and one small orifice for release of air accumulating under normal working conditions.

## KINETIC AIR VALVES

The Valve with or without isolating Sluice Valve fitted with mitre gearing have been developed to deal with particularly air release problems. These Valves overcome the difficulties sometimes experienced in a conventional air valve with the vulcanite ball which tends to get caught in the emergent air stream and blows shut the large orifice.

By the application of hydrodynamic principles the large orifice always remains open irrespective of the velocity of the air discharged and is closed positively as soon as water rises in the valve.

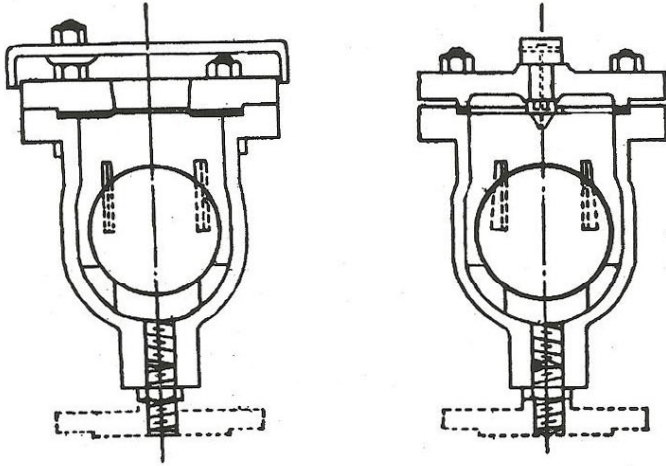
## MATERIAL & CONSTRUCTION

Body, cover & cowl-	Cast Iron to IS : 210 Gr. FG. 200
Valve Seat, nut, Small orifice nipple	- Gunmetal to IS : 318 Gr. 2
Spindle	- High Tensile Brass/Al SI 410 Stainless Steel
Small orifice	- Soft rubber covered seasoned timber ball
Large orifice	- Hard vulcanite covered seasoned timber ball

## PRESSURE RATING

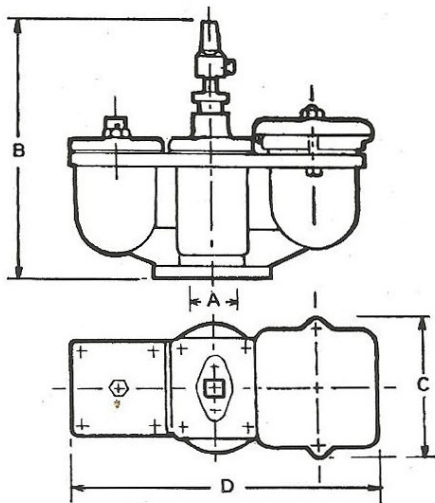
Type	Sizes working Pressure	Max.	Test pressure
1. Single Air Valve (Screwend end)	1/2", 3/4" & 1"	5 Kg/cm <sup>2</sup>	10 Kg/cm <sup>2</sup>
2. Double Air Valve (Flanged end)	40 mm to 200 mm	10 Kg/cm <sup>2</sup>	16 Kg/cm <sup>2</sup>
3. Kinetic Air Valve (Flanged end)	80 mm to 200 mm	10 Kg/cm <sup>2</sup>	16 kg/cm <sup>2</sup>

Valves for Higher pressure Rating are also available



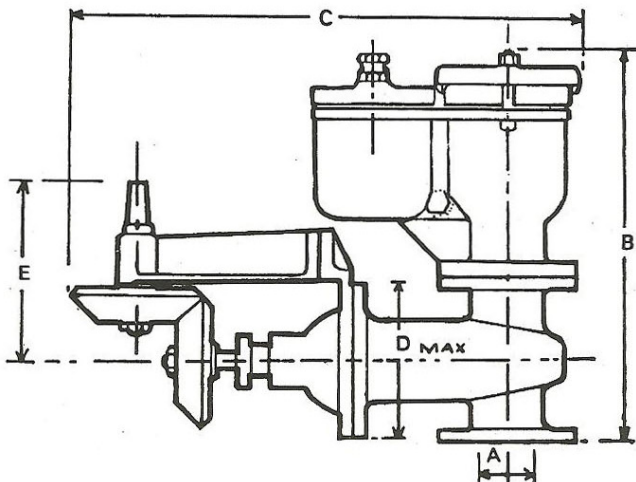
**CALSENS BRAND SINGLE AIR VALVE**  
(G & K Fig H-4)

Valve Size	Height	ToP SQ	Suitable For Mains
1/2"	196	118	Upto
3/4"	200	118	100 mm
1"	255	158	Diameter



**CALSENS BRAND DOUBLE AIR VALVE**  
(G & K Fig H - 40)

Valve Size	Suitable For Mains			
A	B	C	D	
40	371	210	442	upto 100 mm
50	407	210	442	125 to 200 mm
80	431	236	504	225 to 350 mm
100	501	280	634	400 to 500 mm
150	620	430	862	600 to 900 mm
200	735	506	988	1000 to 1200 mm



**CALSENS BRAND KINETIC DOUBLE AIR VALVE**  
(G & K Fig H - 42)

Valve Size	Suitable For Mains				
A	B	C	D	E	
80	538	600	248	211	225 to 350 mm
100	618	664	270	274	400 to 500 mm
150	770	894	342	274	600 to 900 mm
200	1020	1048	415	274	1000 to 1200 mm