



# CALSENS

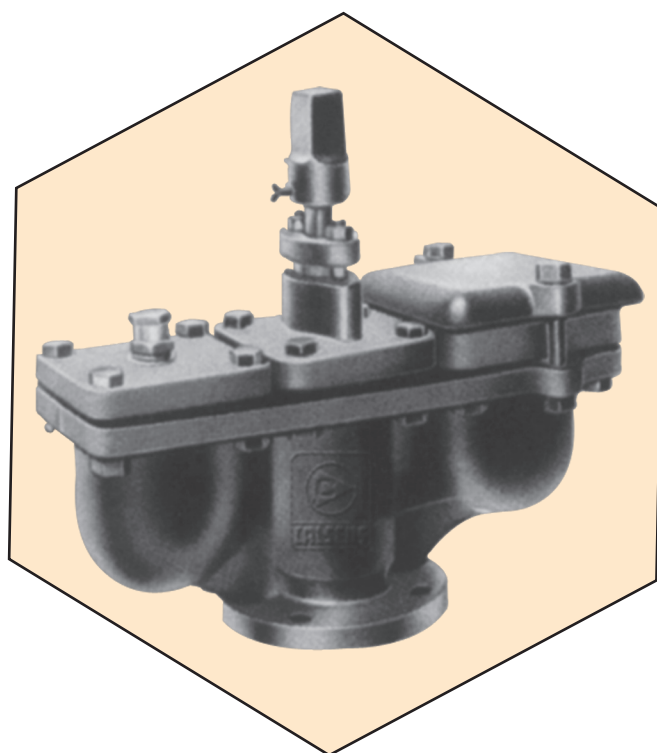
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## **AIR VALVE SINGLE, DOUBLE, KINETIC**

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## **TECHNICAL DATA SHEETS**

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# 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 a 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 a ample range of regular working pressures.

## SINGLE AIR VALVE

*For (1) Single Air Valve* with large orifice is required, with main empty the ball floate 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 Valve are available with isolating valve (DS-1) or without Isolating valve (DS-2).

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

Val Seat, Nut	- Gunmetal to IS : 318 Gr. 2
Small orifice nipple	H.T. Brass IS : 320 HT-2
Spindle	- High Tensile Brass Stainless Steel IS : 660312 Cr12
Small Orifice	- Soft Rubber Covered Seasoned Timber Ball
Large Orifice	- Hard Vulcanite Covered Seasoned Timber Ball

## PRESSURE RATING

Type		Size	Working Pressure Max.	Test Pressure
1.	Single Air Valve (Screwend end) S1	15,25,40	10 Kg/cm <sup>2</sup>	16 Kg/cm <sup>2</sup>
2.	Single Air Valve (Screwend end) S2	25,40,50	10 Kg/cm <sup>2</sup>	16 Kg/cm <sup>2</sup>
3.	Double Air Valve (Flanged end)	40 mm to 200 mm	10 Kg/cm <sup>2</sup>	16 Kg/cm <sup>2</sup>
4.	Kinetic Air Valve (Flanged end) DK	40 mm to 200 mm	10 Kg/cm <sup>2</sup>	16 Kg/cm <sup>2</sup>

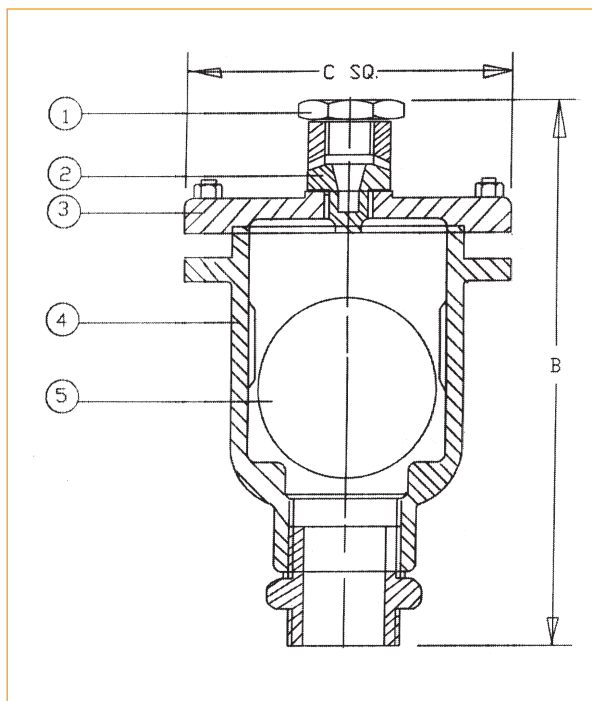
Valves for H igher pressure Rating are also available



## CALSENS BRAND SINGLE AIR VALVE

IS : 14845 / 2000 (S-1)

Fig & Dimention of S-1



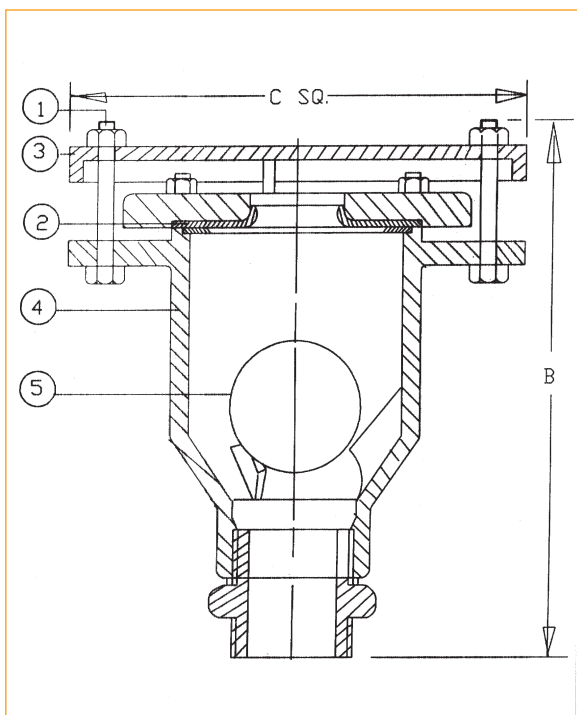
3	40	290	158	up to 100 mm
2	25	255	158	up to 100 mm
1	15	196	118	up to 100 mm
Sl. No.	NB	B. Min.	CSQ. Min.	Suitable for Main Size

5	L.P. Float	1	Timber Core With Vulcanite Coating	
4	Body	1	Cast Iron	IS : 210 GR. FG-200
3	High Pressure Cover	1	Cast Iron	IS : 210 GR. FG-200
2	High Pressure Cover	1	Cast Iron	IS : 210 GR. FG-200
1	H.P. Orifice Plug	1	Gun Metal	IS : 318 GR. - 2
Sl. No.	Description	Qty. Per Valve	Material	Specification

## CALSENS BRAND SINGLE AIR VALVE

IS : 14845 / 2000 (S-2)

Fig & Dimention of S-2

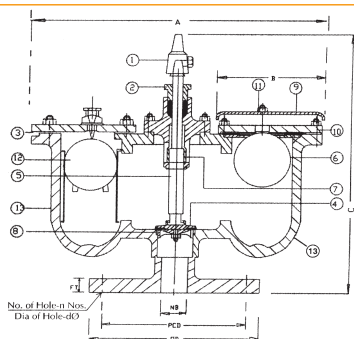


3	50	287	180	125 mm to 200 mm
2	40	237	180	up to 100 mm
1	25	202	164	up to 100
Sl. No.	NB	B. Min.	CSQ. Min.	Suitable for Main Size

5	L.P. Float	1	Timber Core With Vulcanite Coating	
4	Body	1	Cast Iron	IS : 210 GR. FG-200
3	Low Pressure Cover	1	Cast Iron	IS : 210 GR. FG-200
2	L.P. Seating Ring	1	Rubber	NATURAL/EP DM
1	Bolts & Nuts	As Regd.	Carbon Steel	IS : 1363 OR 424.6
Sl. No.	Description	Qty. Per Valve	Material	Specification



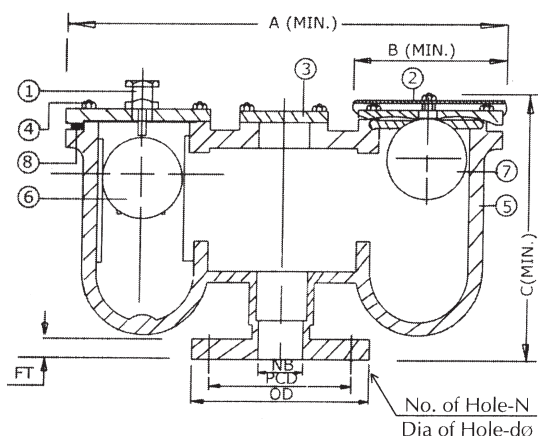
## CALSENS BRAND DOUBLE AIR VALVE IS : 14845 / 2000 (DS-1)



6	200	988	506	735	1000 to 1200 mm
5	150	862	430	620	600 to 900 mm
4	100	634	280	501	400 to 500 mm
3	80	504	236	431	225 to 350 mm
2	50	442	210	407	125 to 200 mm
1	40	442	210	371	up to 100 mm
Sl. No.	N B	A Min.	B Min.	C Min.	Suitable for Main Size

13	BODY	1	CAST IRON	IS:210 GR. FG.-200
12	BALL FOR H.P.	1	TIMBER CORE WITH RUBBER COATING	
11	BOLT & NUTS	As Regd.	CARBON STEEL	IS:1363 CL-4.6 & 4.0
10	COVER	1	CAST IRON	IS:210 GR. FG.-200
9	DUST COVER	2	CAST IRON	IS:210 GR. FG.-200
8	SEAT RING	1	L.T.B.	IS:318 GR. LTB-2
7	SPINDLE NUT	1	L.T.B.	IS:318 GR. LTB-2
6	BALL FOR L.P.	1	TIMBER CORE WITH VULCANITE COATING	
5	SPINDLE	1	STAINLESS STEEL	IS:6603 12 Cr 12
4	VALVE	1	CAST IRON	IS:210 GR. FG.-200
3	GASKET	—	RUBBER	IS:638 TYPE-B
2	GLAND	1	CAST IRON	IS : 210 GR. FG.-200
1	CAP	1	CAST IRON	IS : 210 GR. FG.-200
Sl. No.	Description	Qty. Per Valve	Material	Specification

## CALSENS BRAND DOUBLE AIR VALVE IS : 14845 / 2000 (DS-2)

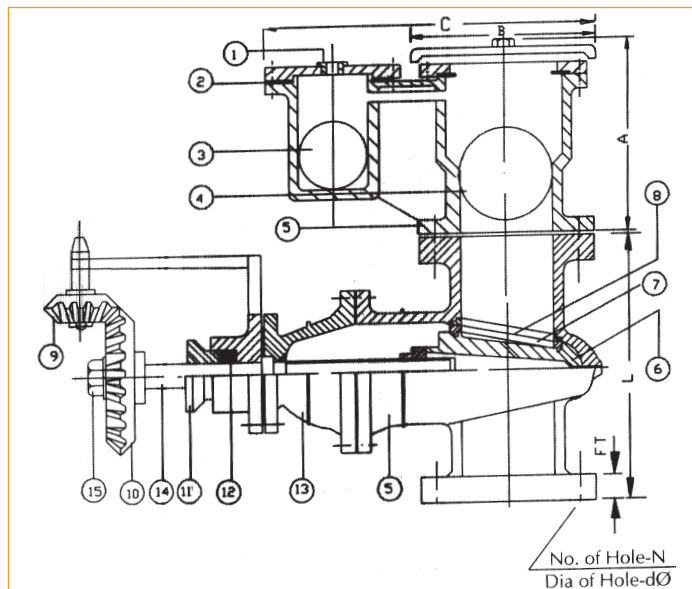


6	200	988	506	580	1000 to 1200 mm
5	150	862	430	476	600 to 900 mm
4	100	634	280	356	400 to 500 mm
3	80	504	236	287	225 to 350 mm
2	50	442	210	264	125 to 200 mm
1	40	442	210	224	up to 100 mm
Sl. No.	N B	A Min.	B Min.	C Min.	Suitable for Main Size

8	Gasket	1	Rubber	IS : 638 Type-B
7	L.P. Orifice	1	Timber Core With Vulcanite Coating	
6	H.P. Orifice	1	Timber Core With Rubber Coating	
5	Body	1	Cast Iron	IS : 210 GR. FG.-200
4	Bolt & Nuts	As Regd.	Carbon Steel	IS : 1363 CL-4.6 & 4.0
3	Cover	1	Cast Iron	IS : 210 GR. FG.-200
2	Dust Cover	1	Cast Iron	IS : 210 GR. FG.-200
1	HEX. Nipple	1	Gun Metal	IS : 318 GR.-2
Sl. No.	Description	Qty. Per Valve	Material	Specification

## KINETIC AIR VALVE (DK) WITH ISOLATING SLUICE VALVE

IS:14845 / 2000 for Kinetic Air Valve / IS : 14846 / 2000 for PD Sluice Valve



6	200	292	700	506	739	1000 to 1200 mm
5	150	267	286	450	674	600 to 900 mm
4	100	229	360	280	424	400 to 500 mm
3	80	203	305	236	373	225 to 350 mm
2	50	178	280	211	352	125 to 200 mm
1	40	140	260	196	324	up to 100 mm
Sl. No.	NB	L±2	A Min	B Min	C Min	Suitable for Main Size

15	NUT & BOLTS	AS REQD.	CARBON STEEL	IS : 1363 Cl-4.6 & 4.0
14	SPINDLE	1	S.S.	IS:6603 12 Cr 12
13	COVER	1	CAST IRON	IS:210 GR. FG.-200
12	PACKING	AS REQD.	JUTE & HEMP	IS:5414
11	GLAND	1	CAST IRON	IS:210 GR. FG.-200
10	GEAR	1	CARBON STEEL	EN-8
9	PINION	1	CARBON STEEL	EN-9
8	BODY RING	2	S.S./L.T.B.	04 Cr 18 Ni 10 IS : 318 GR. LTB-2
7	WEDGE RING	2	S.S./L.T.B.	04 Cr 18 Ni 10 IS : 318 GR. LTB-2
6	WEDGE	1	CAST IRON	IS : 210 GR. FG.-200
5	BODY	1	CAST IRON	IS : 210 GR. FG.-200
4	BALL (LP)	1	TIMBER CORE WITH VULCANITE COATING	
3	BALL (HP)	1	TIMBER CORE WITH RUBBER COATING	
2	GASKET	AS REQD.	RUBBER	IS : 638 TYPE-B
1	HEX. NIPPLE	1	L.T.B	IS : 318 GR. LTB-2
Sl. No.	Description	Qty. Per Valve	Material	Specification



Website : [www.calsens.com](http://www.calsens.com)



## **CALSSENS PRIVATE LIMITED**

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