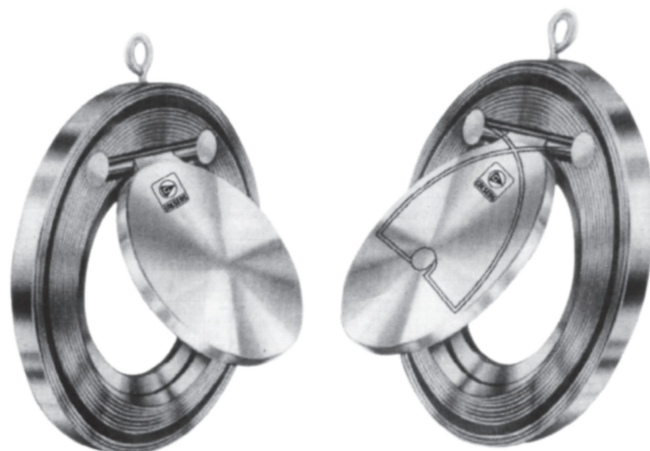
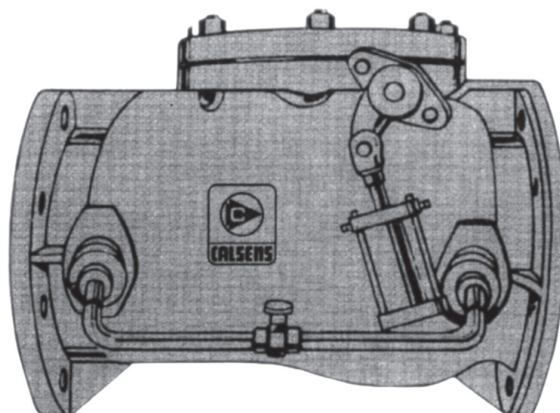




CALSENS

REFLUX VALVE



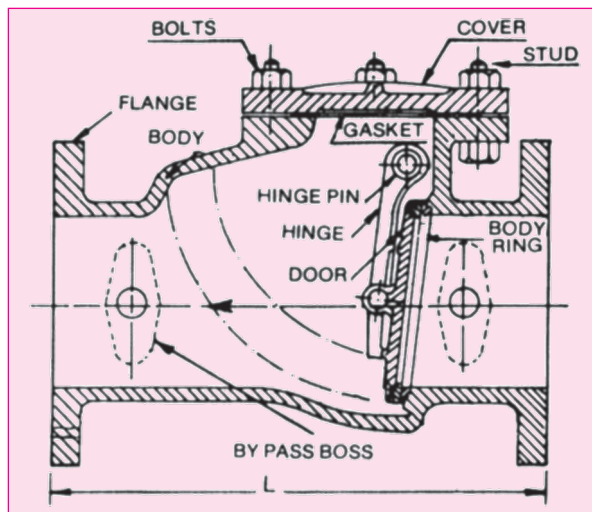
TECHNICAL DATA SHEETS

CALSENS Reflux/Check/Non-return Valves are now a name to reckon among engineers throughout the country. Each Valve is specially tested under strict supervision and quality control. Design, production and hard gained field experience have made these valves reliable. Maximum utility is provided by these valves in Irrigation, River Control Installations, Industrial Plants and Projects, Cooling Towers and in the works of Public Health Projects etc.

CALSENS guarantees a trouble-free service for years for their valves.

APPLICATIONS

Calsens Reflux/Check/Non-return valves are designed to provide air and water cushioning to prevent water hammer and also to prevent backflow of water from rising mains. Valves suitable for handling clear water having turbidity of 5000 ppm maximum within the limits of the working pressure. Suitable for temperature upto 600C. Hinge Pin construction of a special type can also be arranged.



STANDARDS

1. IS 5312 (Part-1) 2004-50 mm to 600 mm
2. IS 5312 (Part-2) 1986-500 mm to 1200 mm
3. Similar to G & K cat. Fig. M-1 600 mm to 750 mm (Single door)
4. Similar to G & K cat. Fig. - M-8 600 mm & above (Multi door)

MATERIALS & CONSTRUCTION

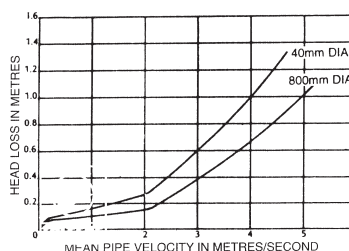
1. Body, Door, Cover, Hinge – Grey Cast Iron, conforming to IS 210 Gr. FG 200.
2. Hinge Pin – AISI 410 – Stainless Steel
High Tensile Brass to IS : 320 HT2
3. Body Ring/Door Ring – Lead tin bronze/ss.
4. Door Faces – Natural/Synthetic rubber (Optional)
5. Hinge Plug & Air Plug – SS IS : 6603
6. Flanges – Faced & Drilled to IS : 1538/93 BSS-10, Table D/E. (One demand drilling as per DIN/ANSI/undrilled possible).
7. Bolts & Nuts – Carbon Steel IS : 1363

ACCESSORIES

(Following accessories can be supplied)

1. By-Pass Arrangement.
2. Dashpot Arrangement.
3. Counter Weight Arrangement.

HEAD LOSS GRAPH



FLOW CAPACITIES

Valve Size mm	Normal (3 m/s) 1/s	Maximum (4 m/s) 1/s
50	6	7
80	14	17
100	25	30
125	39	47
150	56	68
175	76	91
200	99	117
250	167	186
300	222	268
350	303	367
400	395	477
450	502	602
500	619	740
600	895	1083

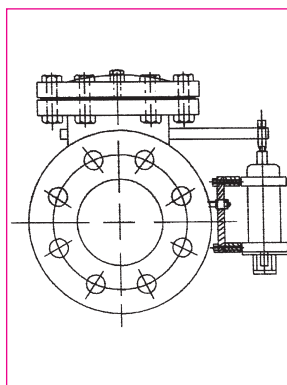
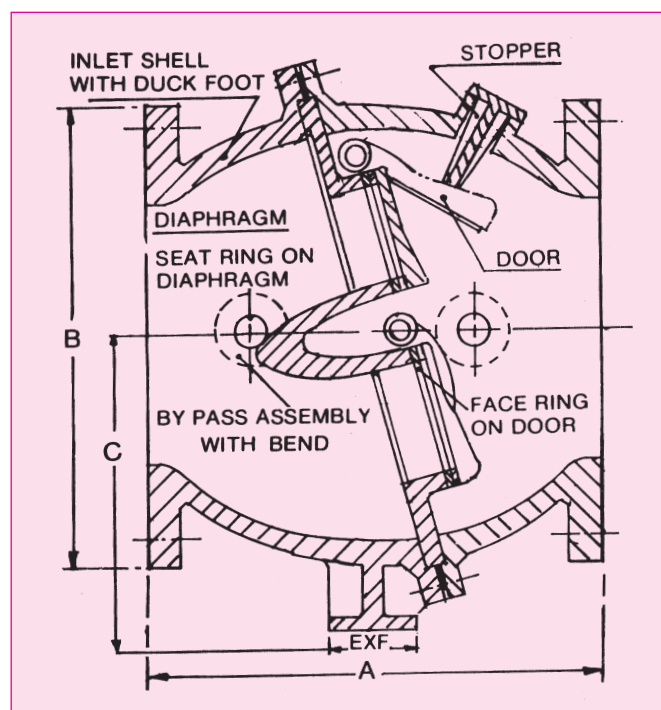
TEST & WORKING PRESSURE

Size (mm)	Hydraulic Test Pressure in MPa				
	Body	Seat	PN Rating	Test Duration	
				Body	Seat
(Single door)					
50 – 600	2.4	1.6	1.6	5	2
50 – 600	1.5	1.0	1.0	5	2
(Multi door)					
500 – 1200	0.9	0.6	0.6	5	2
500 – 1200	1.5	1.0	1.0	5	2

1 MPa - 10 Kg/Cm²

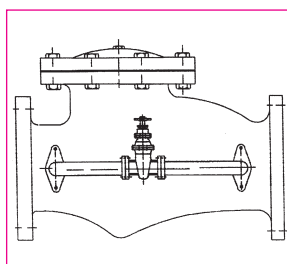
TEST & WORKING PRESSURE

NOMINAL BORE	PCD	OD	F/F L	SIZE OF BY-PASS	HINGE PIN DIA
50	125	165	203	10	10
65	145	185	216	10	10
80	160	200	241	10	10
100	180	220	292	10	12
125	210	250	330	15	12
150	240	285	356	15	16
200	295	340	495	25	20
250	350	395	622	25	22
300	400	445	698	40	25
350	460	505	787	40	25
400	515	565	914	40	32
450	565	615	978	50	32
500	565	670	978	50	38
600	725	780	1295	65	38



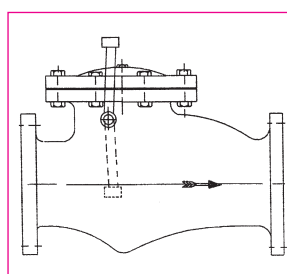
Dashpot Arrangement

Dashpot Arrangement is provided to control the closing time of the door and to reduce Mechanical and Hydraulic shocks to sudden closure of doors.



By-Pass Arrangement

By-Pass Arrangement is provided to reduce the unbalanced load/ to supply Water for priming.



Counter Weight Arrangement

Is Provided to minimise the slam on closure. The door hinge pin shall extend through a sealing gland and fitted with an external lever to permit back Flushing.

MULTI DOOR REFLUX VALVES

Reflux valves are generally used on rising mains as they permit water to flow in one direction only and check all the return flows. These are operated by pressure alone, having no external means of control. In large diameter pipes, the door in single door pattern would close slowly and reverse flow would cause water hammer due to surge. Therefore, multi-door pattern is resorted to, in such cases, so as to reduce the time required for closure. The flow may be controlled by means of flaps swinging up and down with pressures on to seats (swing check).

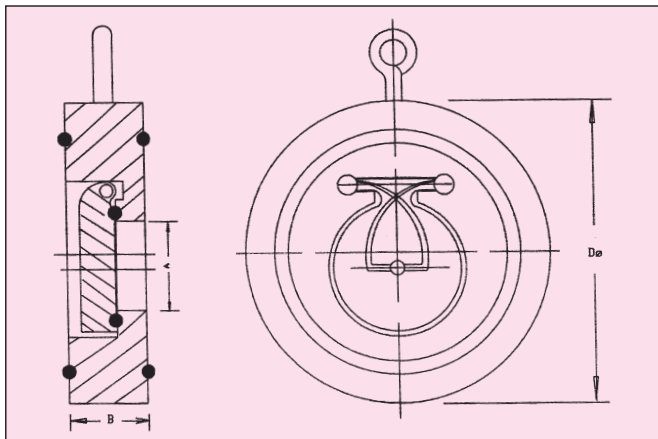
DIMENSIONS FOR MULTI DOOR REFLUX VALVES

Nominal Bore	500	600	700	750	800	900	1000	1100	1200
Length over Flanges (A)	815	914	1000	1045	1118	1250	1250	1396	1500
Overall Height (B)	1150	1333	1446	1446	1570	1634	1730	2089	2250
Height of centre from duckfoot (C)	600	685	750	750	815	850	915	1080	1175
Size of / duck Foot / (EXF)	200 X 250	254 X 254	300 X 375	300 X 375	300 X 375	300 X 375	300 X 375	400 X 450	400 X 450

WAFER CHECK VALVES



Model 'C'



DESIGN

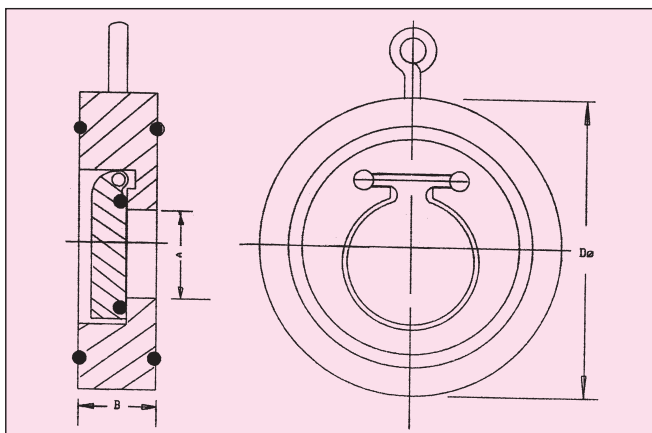
Short over all length, centering achieved by means of body out side diameter. Standard sealing ring is of Nitrile Rubber. Flange Sealing is obtained by 'O' ring on body.

MATERIAL

Body and Disc : MS/CS/SS/CI/DI
Spindle : SS
Disc Sealing Ring : Nitrile Rubber
Body 'O' Ring : Nitrile Rubber

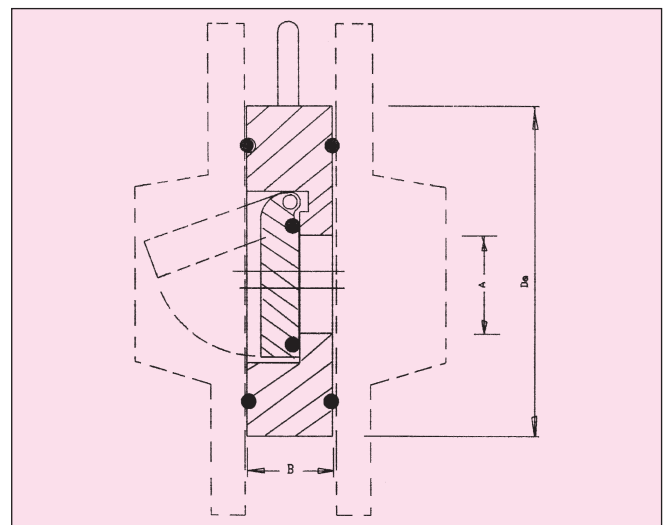
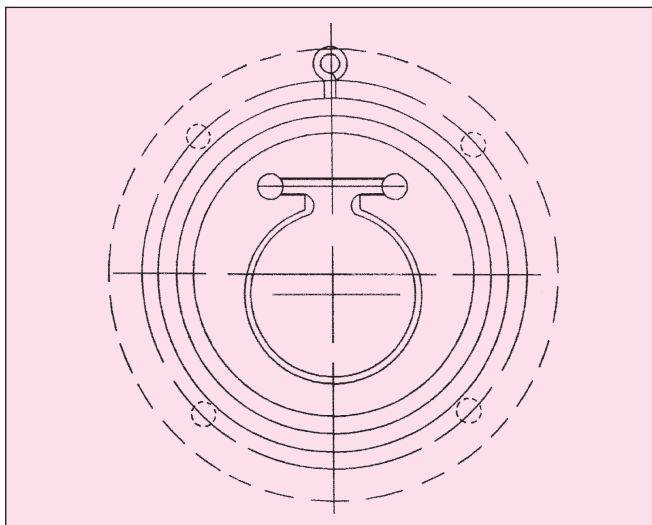
Other materials of construction available.

Model CS

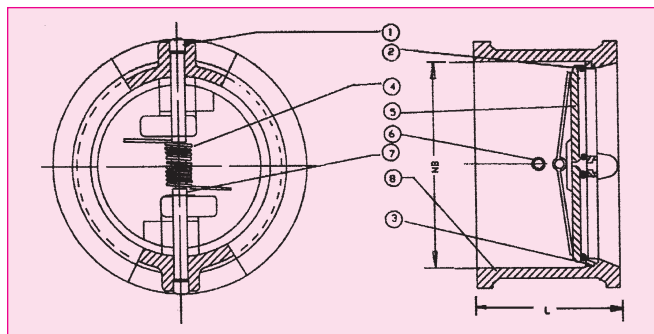


MOUNTING

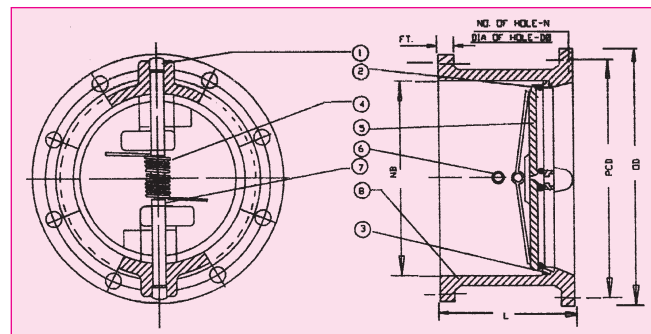
The valves are suitable for mounting between IS/BS/ASA flanges. Eye Bolt provided at the top of the valve Body helps to maintain the proper alignment while locating the valve in between the connecting flanges.



DUAL PLATE CHECK VALVE



DUAL PLATE WAFER TYPE CHECK VALVE



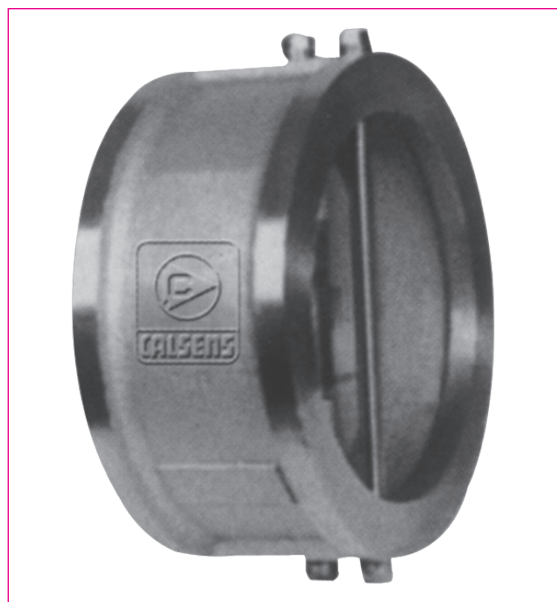
DOUBLE FLANGED DUAL PLATE CHECK VALVE

MATERIAL

- Manufacturing Standard - API-594, Flanged ends as per ANSI B16.5 or Customers' Requirements.
- By-Pass Arrangement also available. Testing Standard - API-598.
- For horizontal flow application. Valve must be installed with the disc hinge pin in the vertical position to ensure proper operation.
- Upto 150 mm valve plate can be leaded tin bronze.

MATERIALS & CONSTRUCTION

1.	Pin Retainer	Stainless Steel
2.	Disc Seal	Rubber / S.S. / L.T.B.
3.	Body Ring	Rubber / S.S. / L.T.B.
4.	Springs	Stainless Steel
5.	Valve Plate	C.I./D.I./CS
6.	Stop Pin	Stainless Steel
7.	Hinge Pin	Stainless Steel
8.	Body	C.I./D.I./CS



DIMENSIONS FOR DUAL PLATE CHECK VALVES

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17	18	19
NB/Size	50	65	80	100	125	150	200	250	300	350	400	450	500	600	750	900	1050	1200
Class 125 (L)	54	60	67	67	83	95	127	140	181	184	191	203	213	222	305	368	432	524
Class 150 (L)	54	60	67	67	83	95	127	140	181	222	232	264	292	318	368	483	568	629



FOOT VALVE

CALSENS FOOT VALVES WITH STRAINERS

For vertical suction pipelines best quality accessories are required in efficient pumping plants for unrestricted flow of water and minimum friction. Sound design, excellent workmanship and large strainer are of Calsens Foot Valves retain water in pump and suction pipes and stop any foreign body penetrating the pump through suction pipes.

STANDARDS

1. IS-4038-1967 – 25 mm. to 450 mm.
2. Similar to G & K cat. Fig – H 35 A-32 mm. To 900 mm.
H 38-32 mm. To 600 mm.

MATERIALS & CONSTRUCTION

1. Body, Disc. Flap & Lift Guide – Grey Cast Iron conforming to IS 210/Gr. - FG 20.
2. Ring – Leaded tin bronze (Rings of Cast Iron, AISI 410 SS Leather, Rubber can be supplied on demand).
3. End Connections – Flanged type/Screwed types.
4. Flanges – Faced & Drilled to IS 1538/1993 BS. 10 Table D/E. On demand drilling as per DIN/ANS/undrilled possible.
5. Strainer – Grey Cast Iron/Mild Steel.

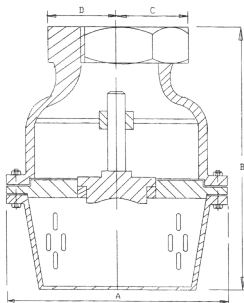


Fig. 1

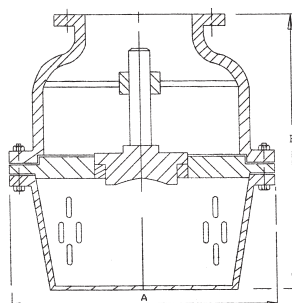


Fig. 2

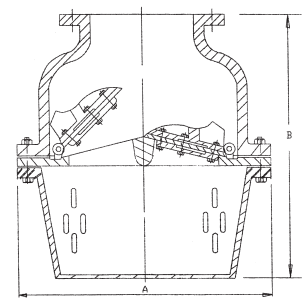


Fig. 3

DIMENSIONS FOR FOOT VALVES

(All dimensions are in mm. Unless stated otherwise)

Size Fig.		25	32	40	50	65	80	100	125	150	200	225	250	300	350	400	450
Fig. 1	A	120	140	150	160	220	240	290	340	380	–	–	–	–	–	–	–
	B	90	105	105	124	146	190	248	330	325	–	–	–	–	–	–	–
	C	12	14	14	16	20	22	26	26	26	–	–	–	–	–	–	–
	D	12	14	14	16	20	22	26	26	26	–	–	–	–	–	–	–
Fig. 2	A	–	–	–	200	200	225	270	294	375	580	–	–	–	–	–	–
	B	–	–	–	250	263	275	350	394	450	675	–	–	–	–	–	–
Fig. 3	A	–	–	–	200	200	225	270	294	375	580	580	740	740	880	880	880
	B	–	–	–	200	362	275	350	394	450	645	645	750	750	1000	1115	1115



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