



S & M INDUSTRIAL VALVES LIMITED
(FORMERLY : STEAM & MINING INDUSTRIES)

AN ISO 9001 : 2000 CERTIFIED COMPANY

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A small time vendor of machinery parts, the late Mr. J. K. Mehta foresaw the huge potential of Industrial Valves in early 50s and plunged in to manufacturing of valves with limited resources but unlimited zeal and vigour to fulfill the dream to manufacture the finest quality of Industrial valves. The first batch of his production rolled out in the year 1963. Untiring efforts and designing skill to make the most sophisticated valves, we started executing order from Steel Plants and Refineries bringing customer's satisfaction and letters of appreciation, resulting in to the flow of inquiries and high growth of Steam & Mining Industries.

For us the 'Mantra' to growth is to improve with every day - with every Order - in terms of quality and customer satisfaction. We strive to manufacture not just another valve but SMI/SWASTIK Valve-the SUPERIOR QUALITY VALVE.

A modern workshop, sophisticated design room, excellent mechanical engineering facilities manned by dedicated team of thorough professionals produces superior quality valves for the customers who gets value for money.

Our specialization reflects in designing and manufacturing critical valves. Yet another feather in our cap was added when we successfully developed some of the most critical tailor made import substitute valves for Steel Plants, Thermal Power Plants, Fertilizer Plants and Petroleum Companies.

For SMI - the saga continues accept new challenges, expand our own horizons, set and cross our own quality and customer satisfaction standards. The third generation of entrepreneurship is adding on to the new energies, develops latest state of the art furnaces, tools, machineries, design units, R & D department and above all the new fresh ideas.

Always striving to serve you better.

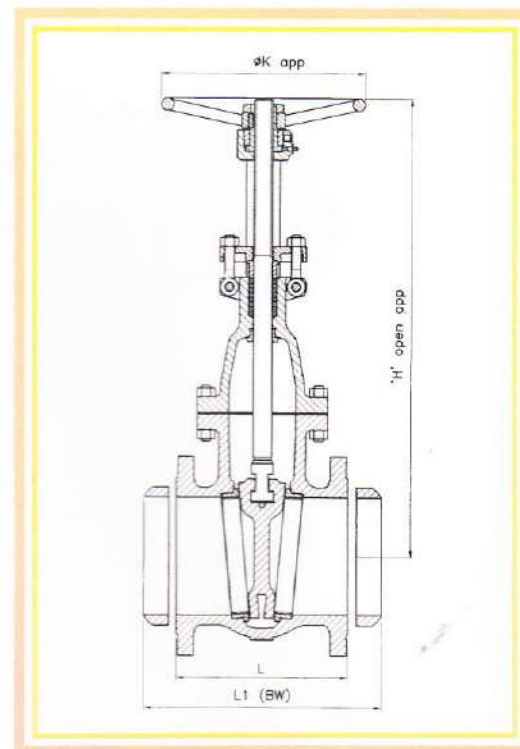
Gate Valve Class 150/300/600



API-600

MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
BONNET	WCB	WC6	CF8/ CF8M
YOKE	WCB	WC6	CF8/ CF8M
WEDGE	13% Cr. FACING ON WCB	13% Cr. FACING ON WC6	CF8/ CF8M
SEAT RING	13% Cr. FACING ON A 515-70	S.S 304	304/ 316 CF8/ CF8M
BACK SEAT	410		INTEGRAL
SPINDLE	410		304/ 316
GLAND BUSH	410		304/ 316
GLAND FLANGE	CARBON STEEL/WCB		S.S 304
YOKE SLEEVE	ASTM A 439 Gr.D2/ AL-BRONZE		
YOKE NUT	ASTM A 515-70		S.S 304
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	CARBON STEEL		
STUD & NUT	B7/2H	B16/7	B7/2H
EYE BOLT & NUT	B7/ 2H		B8/ 8
CROSS BOLT & NUT	B7/ 2H		B8/ 8
GASKET	CORR. SOFT IRON	CORR. S.S 304	CORR. S.S304/316
GLAND PACKING	GRAPHITE ASB. INHIB. & INCONEL WIRE REIN./GRAPHOIL		
GRUB SCREW	STEEL		
GREASE NIPPLE	BRASS/ STEEL		



CLASS 150 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1050
L	178	190	203	229	254	267	292	330	356	381	406	432	457	483	508	559	610	610	711	711	813
L1	216	241	282.5	305	381	403	419	457	502	572	610	660	711	762	813	902	991	991		1219	1397
H app	400	445	485	600	725	765	985	1220	1395	1500	1775	2000	2210	2530	2725	2800	3130	3300	3420	3975	4370
ØK app	200	200	250	250	300	300	350	450	500	559	559	610	610	660	660	711	711	813	813	864	915
Wt. kg app(F/E)	20	28	33	55	70	90	130	225	330	450	530	625	825	1150	1210	1415	1620	2025	2450	3050	4250

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600
L	216	241	282.5	305	381	403	419	457	502	762	838	914	991	1092	1143
L1	216	241	282.5	305	381	403	419	457	502	762	838	914	991	1092	1143
H app	410	450	485	615	725	835	1015	1230	1555	1720	1970	2160	2410	2550	2810
ØK app	200	250	250	300	350	350	450	500	500	600	600	680	760	760	760
Wt. kg app(F/E)	32	35	55	80	100	150	225	350	480	745	1060	1325	1725	1900	2570

CLASS 600 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600
L	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1295	1397
L1	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1295	1397
H app	410	485	560	705	800	895	1125	1400	1535	1825	1955	2140	2310	2680	2680
ØK app	250	250	350	450	500	500	600	680	760	760	760	760	813	889	900
Wt. kg app(F/E)	38	56	72	136	170	245	432	780	835	1190	1690	2010	2400	2650	3700

Valves can be supplied with pneumatic / Electric Actuator on request.
Higher sizes of valves upto 1800 NB can be supplied on request.



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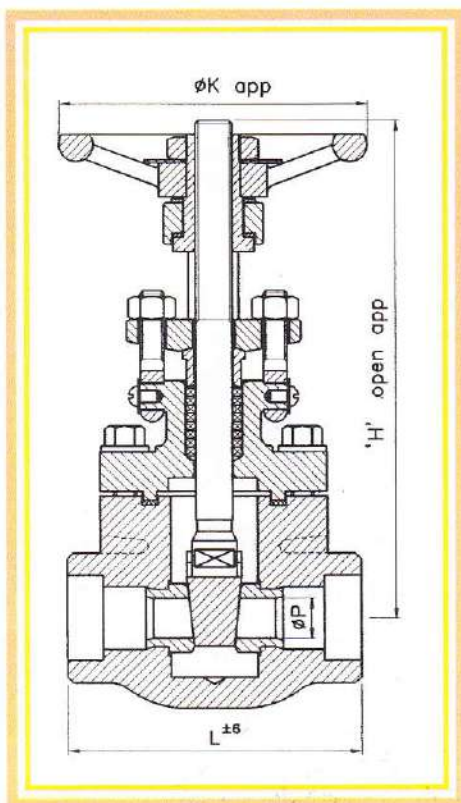
Forged Gate Valve Class 150/300/600/800



BS 5352 / API 602

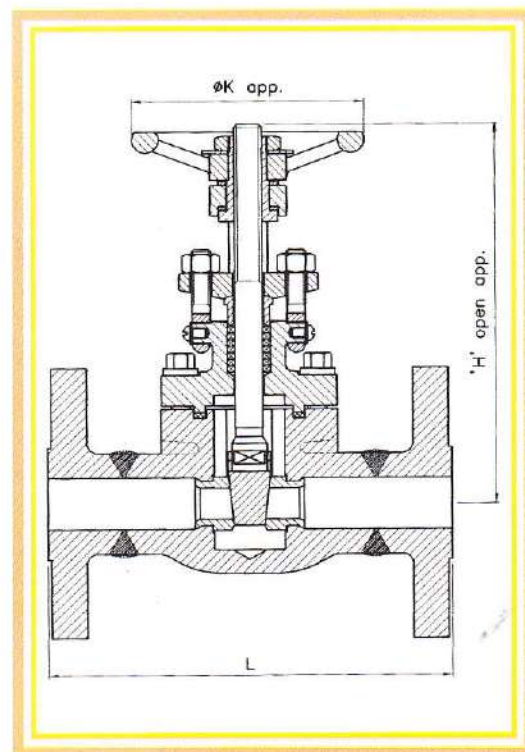
MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	A 105	F 304	F 316
BONNET	A 105	F 304	F 316
WEDGE	13% Cr.	304	316
SEAT	13% Cr.	304	316
SPINDLE	410	304	316
GLAND BUSH	410	304	316
GLAND FLANGE	A 105	F 304	
YOKE SLEEVE	ASTM A 439 Gr.D2/ AL-BRONZE		
HAND WHEEL	CAST STEEL		
HAND WHEEL NUT	Gr.2H		
COLLAR BOLT / STUD & NUT	B7/ 2H	B8/ 8 OR B7/2H	
EYE BOLT & NUT	B7/ 2H	B8/ 8	
GASKET	SPW S.S 304/316 WITH CAF/ GRAFOIL		
GLAND PACKING	GRAPHITE ASBESTOS INHIB. & INCONEL WIRE REIN.		
SCREW/RIVET & WASHER	STEEL		
BEARING WASHER	HARDENED STEEL	304	



CLASS 800 (DIMENSION TABLE)

VALVE SIZE mm	08	10	16	20	25	40	50
L	85	85	85	90	103	128	142
'H' app	165	165	165	175	215	270	285
Ø K app	95	95	95	95	105	150	150
Ø P	6.4	6.4	9.5	12.7	17.5	28.6	36.5
Wt. kg app.	2.0	2.0	2.0	2.5	3.5	7.5	9.0



CLASS 150 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	108	117	127	165
'H' app	165	175	215	270
Ø K app	95	95	105	150
Wt. kg app.	3.0	4.5	6.0	10.0

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	140	152.5	165	190.5
'H' app	165	175	215	270
Ø K app	95	95	105	150
Wt. kg app.	4.0	5.0	7.5	13.5

CLASS 600 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	165	190.5	216	244
'H' app	165	175	215	270
Ø K app	95	95	105	150
Wt. kg app.	4.5	5.5	8.5	17.5



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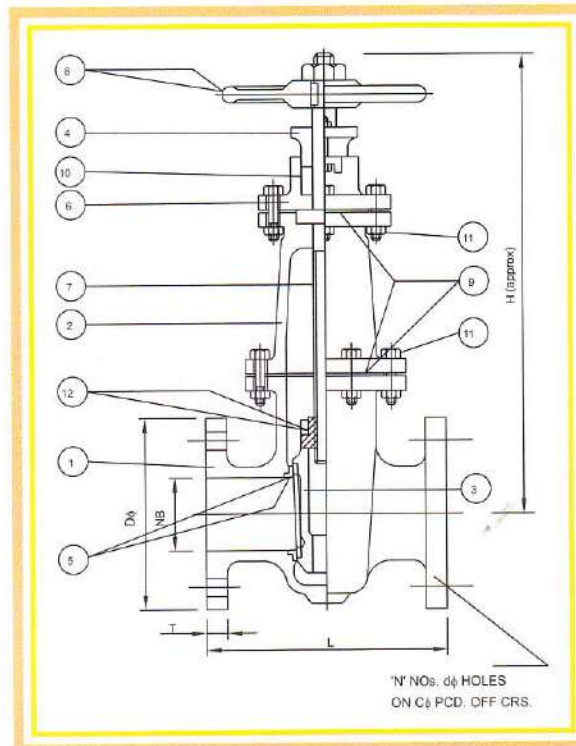
1, A. J. C. BOSE ROAD, KOLKATA-700 020

Cast Iron Sluice Valve (Non-Rising Spindle)



IS : 14846

600	508	1500	780	725	20	31	36
500	457	1300	670	620	20	28	33
450	432	1200	615	565	20	28	31.5
400	406	1110	565	513	16	28	30
350	381	1020	505	460	16	23	29
300	356	910	445	400	12	23	27.5
250	330	835	395	350	12	23	26
200	292	725	340	295	8	23	24.5
150	267	595	285	240	8	23	23
100	229	470	220	180	8	19	22
80	203	425	200	160	4	19	21
50	178	365	165	125	4	19	16
NB	L ^{±3}	H~	D ^{±2}	C ^{±1}	N	d ^{±0.5}	T ^{±2}



PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CAST IRON IS:210 FG200
2	BONNET	CAST IRON IS:210 FG200
3	WEDGE	CAST IRON IS:210 Fg200 + AISI 410 FACING
4	GLAND	CAST IRON IS:210 FG200
5	BODY SEAT RING	S.S. AISI 410
6	STUFFING BOX	CAST IRON IS:210 FG200
7	SPINDLE (NON RISING)	S.S. AISI 410
8	HAND WHEEL	CAST IRON IS:210 FG200
9	GASKET	COMPRESSED ASBESTOS FIBRE IS:2712
10	GLAND PACKING	GRAPHITED ASBESTOS ROPE
11	BOLTS & NUTS	CARBON STEEL IS:1367 CL 4.6/4
12	SPINDLE NUT	GUN METAL IS:318 LTB-2

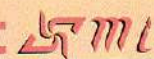
- VALVES GENERALLY MANUFACTURED AS PER IS:14846-2000.
- FLANGE END DRILLING AS PER IS:1538-1993 TABLE-4&5
- HYDRAULIC TEST PRESSURE – BODY – 15 Kg/Cm² SEAT-10 Kg/Cm²
- Valves Can be supplied with Pneumatic/Electric Actuator on request.
- Higher sizes valve upto 1800 NB can be supplied on request.



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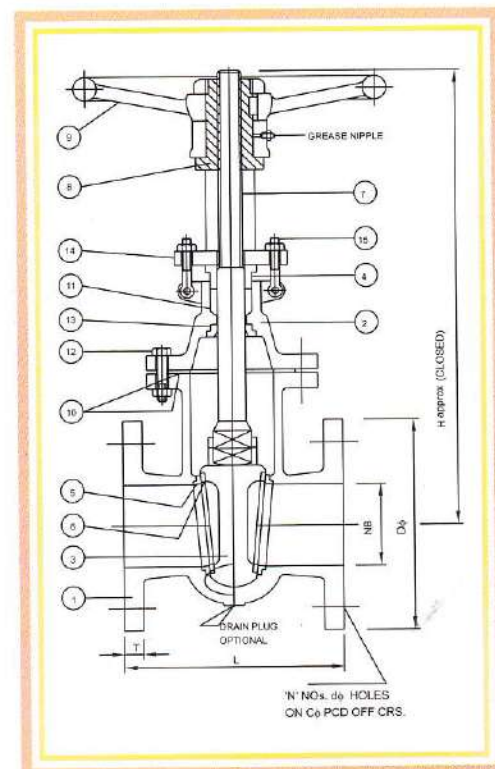
Cast Iron Gate Valve (Rising Spindle)



IS : 14846

PART LIST

PART No.	DESCRIPTION	MATERIALS
1	BODY	C.I. IS:210 FG 200
2	BONNET	C.I. IS:210 FG 200
3	WEDGE	C.I. IS:210 FG 200
4	GLAND	C.I. IS:210 FG 200
5	BODY SEAT RING	GUN METAL / AISI 410
6	WEDGE SEAT RINGS	GUN METAL / AISI 410
7	SPINDLE (RISING)	S.S. AISI 410 / BRASS
8	YOKE SLEEVE	CARBON STEEL
9	HAND WHEEL (NON RISING)	C.I. IS:210 FG 200
10	GASKET	COMPRESSED FIBRE BOARD, IS:2712 Gr.C
11	GLAND PACKING	GRAPHITED ASBESTOS ROPE
12	BOLTS & NUTS	CARBON STEEL IS:1363 CL 4.6 / 4
13	BACK SEAT BUSH	S.S. AISI 410 / BRASS
14	GLAND FLANGE	C.I. IS:210 FG 200
15	EYE BOLTS & NUTS	CARBON STEEL IS:1363 CL 4.6 / 4



600	508	1500	780	725	20	31	36
500	457	1340	670	620	20	28	33
450	432	1210	615	565	20	28	31.5
400	406	1110	565	515	16	28	30
350	381	1030	505	460	16	23	29
300	356	910	445	400	12	23	27.5
250	330	835	395	350	12	23	26
200	292	725	340	295	8	23	24.5
150	267	595	285	240	8	23	23
125	254	485	250	210	8	19	22.5
100	229	470	220	180	8	19	22
80	203	425	200	160	4	19	21
65	190	380	185	145	4	18	16
50	178	365	165	125	4	18	16
NB	PN-1.0 & 1.6	PN-1.0/PN-1.6	$D^{\pm 1}$	$C^{\pm 1}$	N	$d^{\pm 1}$	$T^{\pm 1}$
	$L^{\pm 1}$	H ~					

- VALVE MANUFACTURED AS PER IS:14846-2000.
- TESTING WILL BE AS PER IS:14846-2000.
- FLANGE END DRILLING STANDARD TO IS:1538-1993 (T-4&5)
- Valves Can be supplied with Pneumatic/Electric Actuator on request.
- Higher sizes valve upto 1800 NB can be supplied on request.

RATING	WORKING PRESSURE	HYDRAULIC TEST	PRESSURE
		BODY	SEAT
PN-10	10Kg/Cm ²	16Kg/Cm ²	10Kg/Cm ²
PN-1.6	16Kg/Cm ²	24Kg/Cm ²	16Kg/Cm ²



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1, A. J. C. BOSE ROAD, KOLKATA-700 020

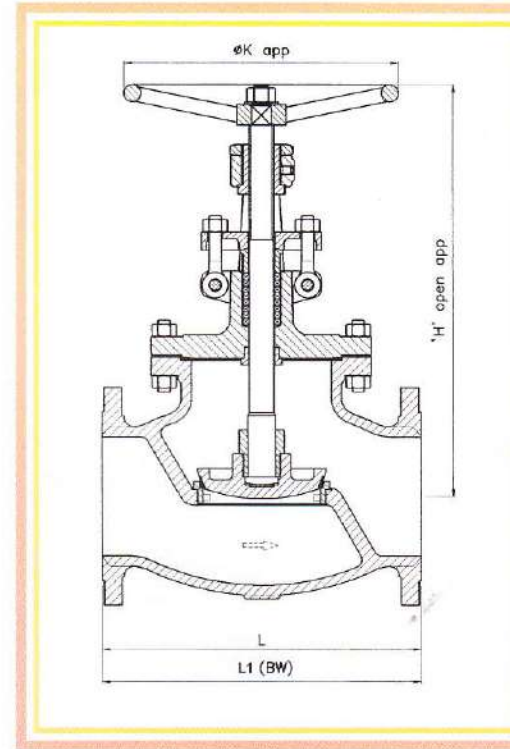
Globe Valve Class 150/300/600



BS 1873

MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
BONNET	WCB	WC6	CF8/ CF8M
PLUG	CA15/ 13% Cr. FACING ON WCB	WC6 + 13% Cr. FACING	CF8/ CF8M
SEAT RING	CA15/A 515-70/ 13% Cr. FACING	S.S 304	CF8/ CF8M
BACK SEAT	410		INTEGRAL
SPINDLE	410		304/ 316
GLAND BUSH	410		304/ 316
GLAND FLANGE	CARBON STEEL/WCB		S.S 304
YOKE NUT	ASTM A 439 Gr.D2/ AL-BRONZE		
PLUG NUT	410		304
HAND WHEEL	CARBON STEEL		
HAND WHEEL NUT	Gr.2H		Gr.8
STUD & NUT	B7/ 2H	B16/ 7	B7/2H
EYE BOLT & NUT	B7/ 2H		B8/ 8
CASING STUD & NUT	B7/ 2H		B7/2H
CROSS BOLT & NUT	B7/ 2H		B8/ 8
GASKET	SPW 2.2 304 / 316 WITH CAF		
GLAND PACKING	GRAPH. ASB. INHIB. & INCONEL WIRE REIN./GRAPHOIL		



CLASS 150 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600
L	203	216	241	292	356	406	495	622	698	787	914	978	978	1067	1295
L1	203	216	241	292	356	406	495	622	698	787	914	978	978	1067	1295
'H' app	320	330	380	480	525	575	650	780	935	1185	1250	1350	1410	1525	1650
ØK app	200	200	250	300	300	350	450	500	600	700	750	800	800	850	900
Wt. kg app(F/E)	20	30	38	57	75	98	155	225	360	580	800	910	1100	1300	1450

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500
L	267	292	318	356	400	444	559	622	711	838	864	978	1016
L1	267	292	318	356	400	444	559	622	711	838	864	978	1016
'H' app	360	410	450	530	590	650	735	825	950	1145	1370	1422	1475
ØK app	200	250	300	350	400	450	600	700	750	800	800	850	900
Wt. kg app(F/E)	30	45	60	95	125	150	235	390	590	965	1115	1400	1800

CLASS 600 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300
L	292	330	356	432	508	559	660	787	838
L1	292	330	356	432	508	559	660	787	838
'H' app	400	425	490	635	685	740	975	1080	1230
ØK app	250	300	350	400	450	500	600	650	700
Wt. kg app(F/E)	35	40	68	128	185	250	435	825	910

Valves can be supplied with pneumatic / Electric Actuator.



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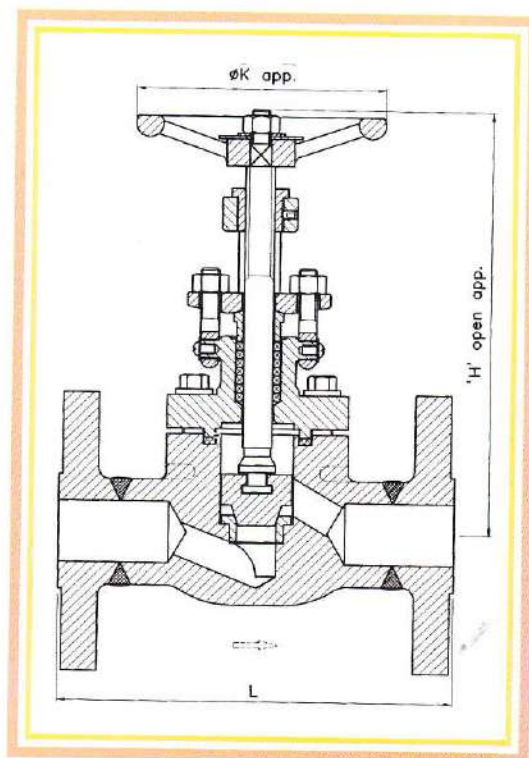
Forged Globe Valve Class 150/300/600/800



BS 5352

MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	A 105	F 304	F 316
BONNET	A 105	F 304	F 316
PLUG	13% Cr.	304	316
SEAT	13% Cr.	304	316
SPINDLE	410	304	316
GLAND BUSH	410	304	316
GLAND FLANGE	A 105	F 304	
YOKE SLEEVE	ASTM A 439 Gr.D2/ AL-BRONZE		
HAND WHEEL	CAST STEEL		
HAND WHEEL NUT	Gr.2H		
COLLAR BOLT / STUD & NUT	B7/ 2H	B8/ 8 OR B7/2H	
EYE BOLT & NUT	B7/ 2H	B8/ 8	
GASKET	SPW S.S 304/316 WITH CAF/ GRAFOIL		
GLAND PACKING	GRAPHITE ASBESTOS INHIB. & INCONEL WIRE REIN.		
SCREW/RIVET & WASHER	STEEL		
WASHER	STEEL		
GRUB SCREW	STEEL		

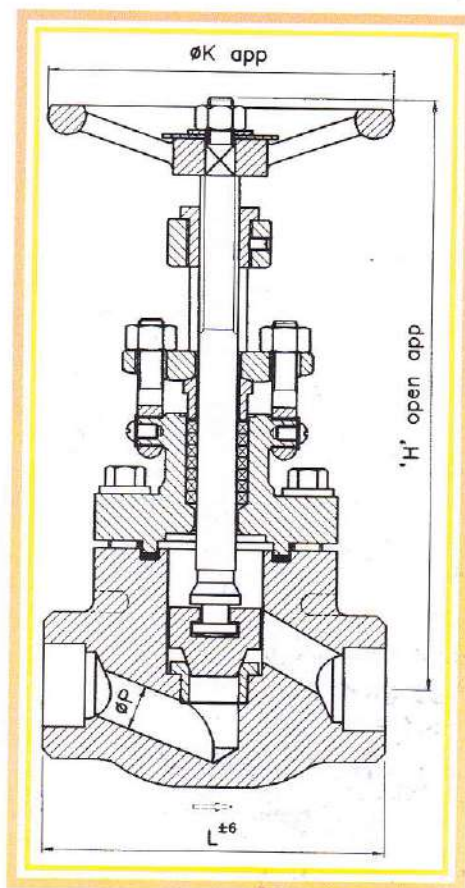


CLASS 150 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	108	118	127	165
'H' app	170	180	210	280
Ø K app	95	95	105	150
Wt. kg app(F/E)	3.0	4.5	6.0	10.0

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	152.5	178	203	228.5
'H' app	170	180	210	280
Ø K app	95	95	105	150
Wt. kg app(F/E)	4.0	6.0	8.0	17.0



CLASS 600 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	165	190.5	216	241
'H' app	180	210	280	290
Ø K app	95	105	150	150
Wt. kg app(F/E)	4.5	6.5	8.5	17.5

CLASS 800 (DIMENSION TABLE)

VALVE SIZE mm	08	10	15	20	25	40	50
L	85	85	85	90	103	128	142
'H' app	170	170	170	180	210	280	290
Ø K app	95	95	95	95	105	150	150
Ø P	6.0	6.0	9.0	12.0	17.5	29.5	35.0
Wt. kg app.	2.0	2.0	2.0	2.5	4.0	8.5	9.0



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STEAM & MINING INDUSTRIES

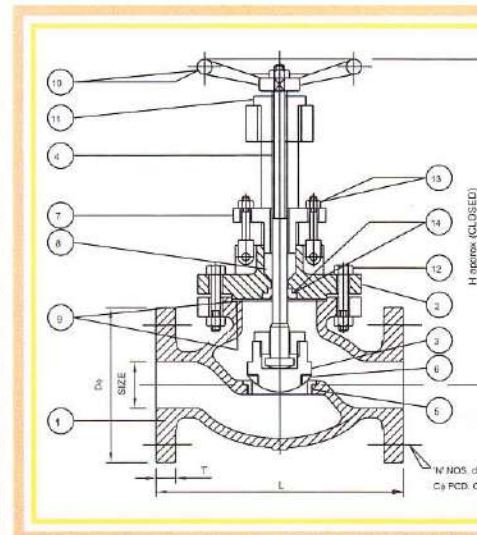
1, A. J. C. BOSE ROAD, KOLKATA-700 020

Cast Iron Globe Valve

BS : 5152

PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CAST IRON IS:210 FG200
2	BONNET	-do-
3	DISC	-do-
4	STEM	S.S. AISI 410 / BRASS
5	SEAT RING	GUN METAL / AISI 410
6	DISC FACING	-do-
7	GLAND	CAST IRON IS:210 FG200
8	GLAND PACKING	GRAPHITE ASBESTOS ROPE
9	GASKET	C A F IS : 2712 Gr.C
10	HAND WHEEL	C.I. IS:210 FG 200
11	YOKE BUSH	CARBON STEEL
12	BOLTS & NUTS	CARBON STEEL (IS:1367, CL-4.6/4)
13	EYE BOLTS & NUTS	CARBON STEEL (IS:1367, CL-4.6/4)
14	BACK SEAT BUSH	S.S. AISI 410 / BRASS



450	965 ± 5	1200	635	40	578	16	32
400	914 ± 5	1050	597	37	540	16	29
350	787 ± 4	925	533	35	476	12	29
300	698 ± 4	800	483	32	432	12	25
250	622 ± 4	700	406	30	362	12	25
200	495 ± 3	575	343	29	298	8	22
150	356 ± 2	465	279	25	241	8	22
125	330 ± 2	420	254	24	216	8	22
100	292 ± 2	360	229	24	191	8	19
80	241 ± 2	315	191	19	152	4	19
65	216 ± 2	305	178	17	140	4	19
50	203 ± 2	250	152	16	121	4	19
40	165 ± 1	240	127	14	98	4	16
32	140 ± 1	210	117	13	89	4	16
25	127 ± 1	200	108	11	79	4	16
20	117 ± 1	200	98	11	70	4	16
15	108 ± 1	200	89	11	60	4	16
SIZE(ND)	PN-10 & PN-16						
	L	H ~	D ϕ $\begin{smallmatrix} +1.5 \\ -1.0 \end{smallmatrix}$	T ± 1	C ϕ ± 1	N	d ϕ ± 1

- VALVE MANUFACTURED AS PER BS : 5152-1974
- TESTING WILL BE AS PER BS : 5152.
- FLANGE AND DRILLING STANDARD TO ANSI CLASS 125.
- Valves Can be supplied with Pneumatic/Electric Actuator on request

RATING	WORKING PRESSURE	HYDRAULIC TEST	PRESSURE
		BODY	SEAT
PN-10	10Kg/Cm ²	15Kg/Cm ²	10Kg/Cm ²
PN-1.6	16Kg/Cm ²	24Kg/Cm ²	16Kg/Cm ²



AN ISO 9001 : 2000 CERTIFIED COMPANY

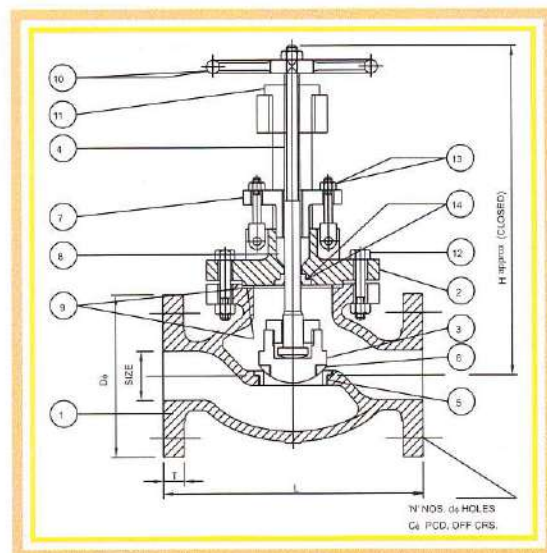
STEAM & MINING INDUSTRIES

Cast Iron Globe Valve PN - 1.6

IS : 9338

PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CAST IRON IS:210 FG200
2	BONNET	-do-
3	DISC	-do-
4	STEM	S.S. AISI 410 / BRASS
5	SEAT RING	GUN METAL / AISI 410
6	DISC FACING	-do-
7	GLAND	CAST IRON IS:210 FG200
8	GLAND PACKING	GRAPHITE ASBESTOS ROPE
9	GASKET	C A F IS : 2712 Gr.C
10	HAND WHEEL	C.I. IS:210 FG 200
11	YOKE BUSH	CARBON STEEL
12	BOLTS & NUTS	CARBON STEEL (IS:1367, CL-4.6/4)
13	EYE BOLTS & NUTS	CARBON STEEL (IS:1367, CL-4.6/4)
14	BACK SEAT BUSH	S.S. AISI 410 / BRASS



300	850 ^{±5}	800	445	27.5	400	12	23
250	730 ^{±4}	700	395	26	350	12	23
200	600 ^{±3}	575	340	24.5	295	8	23
150	480 ^{±3}	465	285	23	240	8	23
125	400 ^{±2}	420	250	22.5	210	8	19
100	350 ^{±2}	360	220	22	180	8	19
80	310 ^{±2}	315	200	21	160	4	19
65	290 ^{±2}	305	185	20	145	4	18
50	230 ^{±2}	250	165	20	125	4	18
40	200 ^{±1}	240	150	18	110	4	18
32	180 ^{±1}	210	140	18	100	4	18
25	160 ^{±1}	200	115	16	85	4	14
20	150 ^{±1}	200	105	16	75	4	14
15	135 ^{±1}	200	95	14	65	4	14
SIZE(ND)	L	H APPROX	D $\phi^{+1.5}_{-1.0}$	T ± 1	C $\phi^{\pm 1}$	N	d ϕ

- VALVE MANUFACTURED AS PER IS : 9338.
- TESTING WILL BE AS PER IS : 9338.
- FLANGE AND DRILLING AS PER IS:9338 (T -2) FOR BELOW 80NB, FOR 80NB AND ABOVE AS PER IS:1538.
- WORKING PRESSURE : 16 Kg/Cm²
- Valves Can be supplied with Pneumatic/Electric Actuator on request



AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

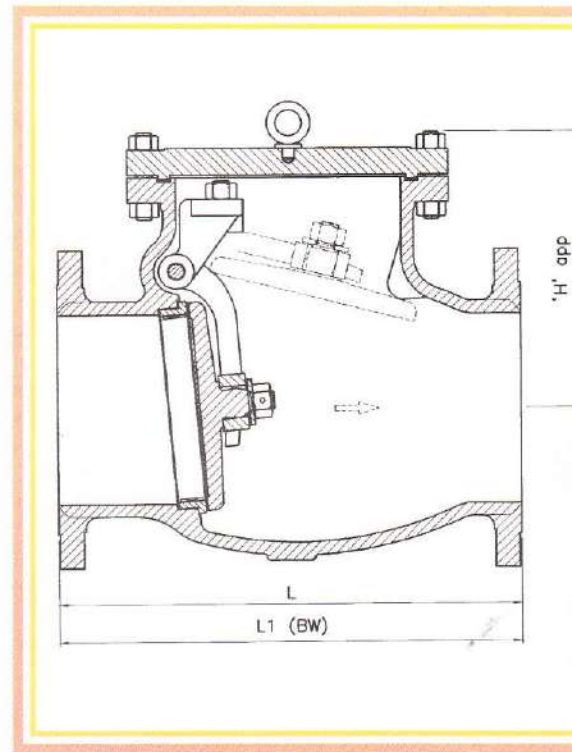
1, A. J. C. BOSE ROAD, KOLKATA-700 020

Swing Check Valve Class 150/300/600

BS 1868 / API 6D

MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
DISC	CA15/ 13% Cr. FACING ON WCB	WC6 + 13% Cr. FACING	CF8/ CF8M
SEAT RING	CA15/A 515 Gr. 70 + 13% Cr. FACING	SS 304	304/ 316
TOP COVER	WCB/Gr. 70	WC6	CF8/ CF8M
STUD & NUT	B7/ 2H	B16/7	B7/2H
BRACKET STUD & NUT	B8/ 8		
GASKET	SPW S.S 304/316 WITH CAF		
WASHER	410	304	316
DISC NUT	Gr. 8		
HINGE PIN	410	304	316
SPLIT PIN	410	304	316
NAME PLATE	ALUMINIUM/SS		
HINGE	WCB/Gr. 70	WC6/CF8	CF8/ CF8M
HINGE BRACKET	WCB/Gr. 70	WC6/CF8	CF8/ CF8M
LIFTING EYE BOLT	ASTM A 105		



CLASS 150 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600	650	700	750
L	203	216	241	292	330	356	495	622	698	787	864	978	978	1067	1295	1295	1448	1524
L1	203	216	241	292	330	356	495	622	698	787	864	978	978	1067	1295	1295	1448	1524
'H' app	145	165	170	205	225	255	300	340	485	465	595	545	600	695	750	775	800	825
Wt. kg app	18	25	32	52	56	92	136	220	345	485	570	770	1055	1255	1325	1500	1650	1800

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400	450	500
L	267	292	318	356	400	444	533	622	711	838	864	978	1016
L1	267	292	318	356	400	444	533	622	711	838	864	978	1016
'H' app	155	215	185	220	245	275	300	375	430	520	560	686	610
Wt. kg app	25	40	60	80	105	130	215	345	470	685	998	1050	1220

CLASS 600 (DIMENSION TABLE)

VALVE SIZE mm	50	65	80	100	125	150	200	250	300	350	400
L	292	330	356	432	508	559	660	787	838	889	991
L1	292	330	356	432	508	559	660	787	838	889	991
'H' app	160	260	230	280	290	330	360	475	555	580	665
Wt. kg app	29	55	65	115	145	250	405	620	815	970	1215

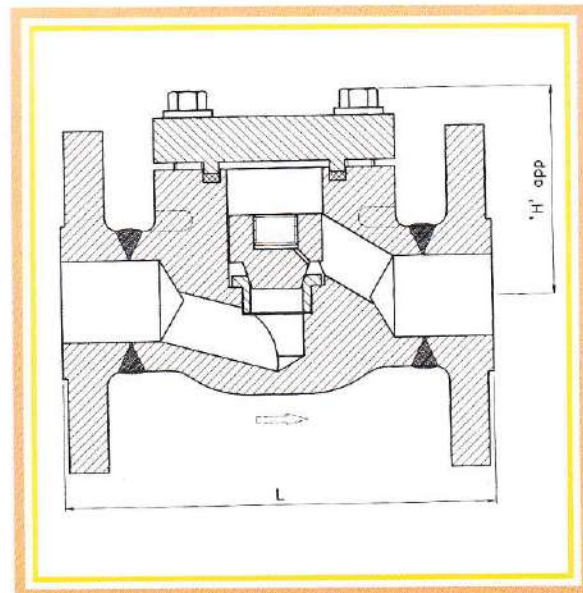


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STEAM & MINING INDUSTRIES

MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	A 105	F 304	F 316
PLUG	13% Cr.	304	F 316
SEAT	13% Cr.	304	316
COVER	A 105	F 304	316
COLLAR BOLT/ STUD & NUT	B7/ 2H	B8/ 8 OR B7/ 2H	
GASKET	SPW S.S 304/316 WITH CAF/ GRAFOIL		



CLASS 150 (DIMENSION TABLE)

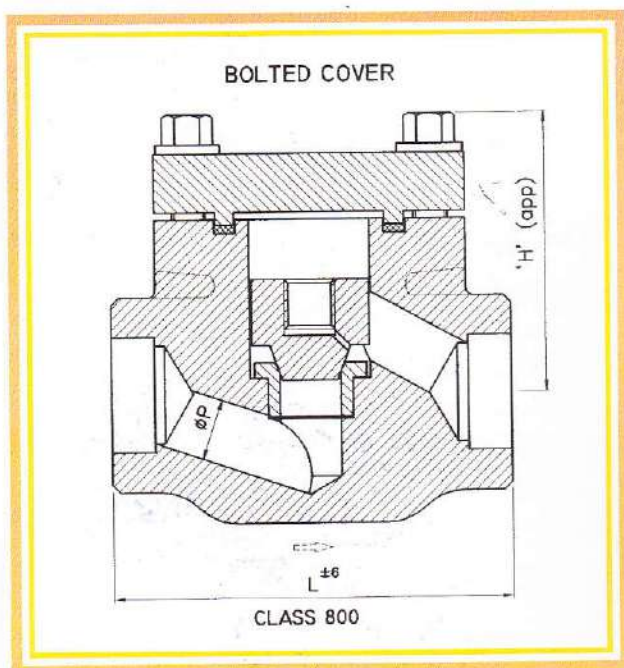
VALVE SIZE mm	15	20	25	40
L	108	118	127	165
'H' app	60	70	80	105
Wt. kg	2	3	3.8	11.5

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	152.5	178	203	228.5
'H' app	60	70	80	105
Wt. kg app	2.5	3.5	7.5	12

CLASS 600 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	40
L	165	190.5	216	241
'H' app	70	80	105	115
Wt. kg app	2.75	3.7	8.5	13.5



CLASS 800 DIMENSION TABLE

VALVE SIZE mm	08	10	15	20	25	40	50
L	85	85	85	90	103	128*	142
'H' app	60	60	60	70	80	105	115
ØP		6.0	9.0	12.0	17.5	29.5	35.0
Wt. kg app	1.5	1.5	1.5	2.0	2.5	6	8



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STEAM & MINING INDUSTRIES

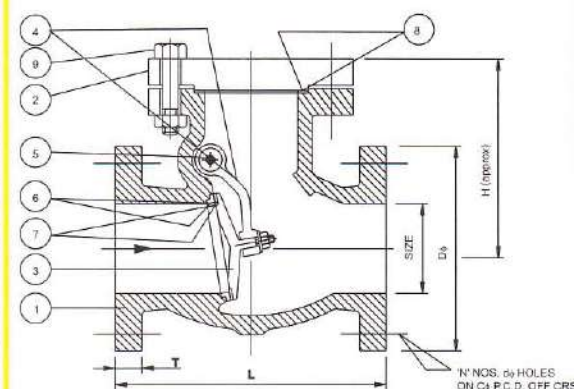
1, A. J. C. BOSE ROAD, KOLKATA-700 020

Cast Iron Swing Type Non Return (Reflux) Valve



BS 5153

600	1219 ^{±6}	650	813	48	749	20	35
500	1067 ^{±6}	600	699	43	635	20	32
450	965 ^{±5}	565	635	40	578	16	32
400	914 ^{±5}	515	597	37	540	16	29
350	787 ^{±4}	490	533	35	476	12	29
300	698 ^{±4}	425	483	32	432	12	25
250	622 ^{±4}	360	406	30	362	12	25
200	495 ^{±3}	290	343	29	298	8	22
150	356 ^{±2}	240	279	25	241	8	22
125	330 ^{±2}	220	254	24	216	8	22
100	292 ^{±2}	195	229	24	191	8	19
80	241 ^{±2}	180	191	19	152	4	19
65	216 ^{±2}	160	178	17	140	4	19
50	203 ^{±2}	140	152	16	121	4	19
40	165 ^{±1}	120	127	14	98	4	16
32	140 ^{±1}	110	117	13	89	4	16
25	117 ^{±1}	100	108	11	79	4	16
20	117 ^{±1}	90	98	11	70	4	16
15	117 ^{±1}	80	89	11	60	4	16
SIZE (NB)	L	H APPROX	D ϕ ^{±15}	T ^{±1}	C ϕ ^{±1}	N	d ϕ ^{±0.5}



- VALVES MANUFACTURED AS PER BS : 5153.
- FLANGE END DRILLING STANDARD AS PER ANSI CLASS 125.
- TESTING AS PER BS : 5153.

RATING

HYDRAULIC TEST PRESSURE

BODY

SEAT

PN-6

10Kg/Cm²

6Kg/Cm²

PN-10

15Kg/Cm²

10Kg/Cm²

PN-16

24Kg/Cm²

16Kg/Cm²

PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CAST IRON IS:210 FG 200
2	COVER	-do-
3	DISC	-do-
4	HINGE	-do-
5	HINGE PIN	BRASS / AISI 410
6	SEAT RING	GUN METAL / AISI 410
7	DISC FACING	-do-
8	GASKET	COMPRESSED ASBESTOS FIBRE IS:2712 Gr.C
9	BOLTS & NUTS	CARBON STEEL IS:1367 CL 4.6/4



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STEAM & MINING INDUSTRIES

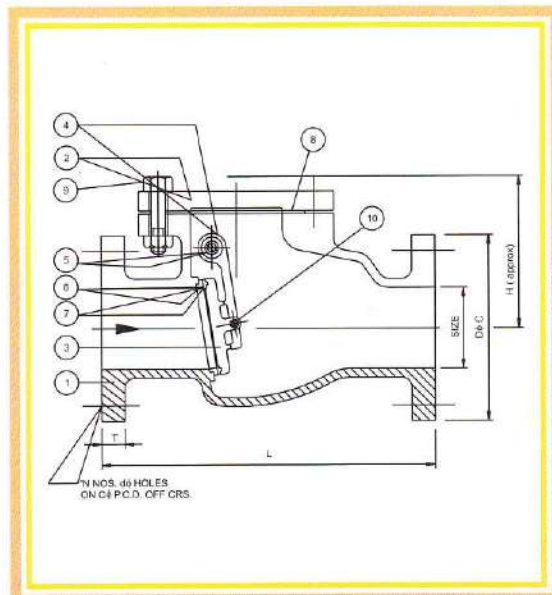
1, A. J. C. BOSE ROAD, KOLKATA-700 0

Cast Iron Swing Type Non-Return (Reflux) Valve



IS : 5312

600	1300 ^{±6}	650	780	36	725	20	31
500	1100 ^{±6}	600	670	33	620	20	28
450	1000 ^{±5}	565	615	31.5	565	20	28
400	900 ^{±5}	515	565	30	515	16	28
350	800 ^{±4}	490	505	29	460	16	23
300	700 ^{±4}	425	445	27.5	400	12	23
250	600 ^{±3}	360	395	26	350	12	23
200	500 ^{±3}	290	340	24.5	295	8	23
150	400 ^{±3}	240	285	23	240	8	23
125	350 ^{±2}	220	250	22.5	210	8	19
100	300 ^{±2}	195	220	22	180	8	19
80	260 ^{±2}	180	200	21	160	4	19
65	240 ^{±2}	160	185	16	145	4	18
50	200 ^{±2}	140	165	16	125	4	18
SIZE (NB)	L	H APPROX	D ϕ ^{±15}	T ^{±1}	C ϕ ^{±1}	N	d ϕ ^{±0.5}



PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CAST IRON IS:210 FG 200
2	COVER	-do-
3	DISC	-do-
4	HINGE	-do-
5	HINGE PIN	BRASS / AISI 410
6	SEAT RING	GUN METAL / AISI 410
7	DISC FACING	-do-
8	GASKET	COMPRESSED ASBESTOS FIBRE IS:2712 Gr.C
9	BOLTS & NUTS	CARBON STEEL IS:1367 CL 4.6/4
10	DOOR PIN	BRASS / AISI 410

RATING	WORKING PRESSURE	DYDRAULIC TEST	PRESSURE
		BODY	SEAT
PN-10	10Kg/Cm ²	15Kg/Cm ²	10Kg/Cm ²
PN-16	16Kg/Cm ²	24Kg/Cm ²	16Kg/Cm ²

- VALVES MANUFACTURED AS PER IS : 5312 (PART-1).
- FLANGE AND DRILLING STANDARD AS PER IS:5312 (PART-1)
50NB & 65NB AND FOR 80NB & ABOVE AS PER IS:1538.
- TESTING AS PER IS : 5312 (PART-1).



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STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

Wafer Type Dual Plate Check Valve



API 594

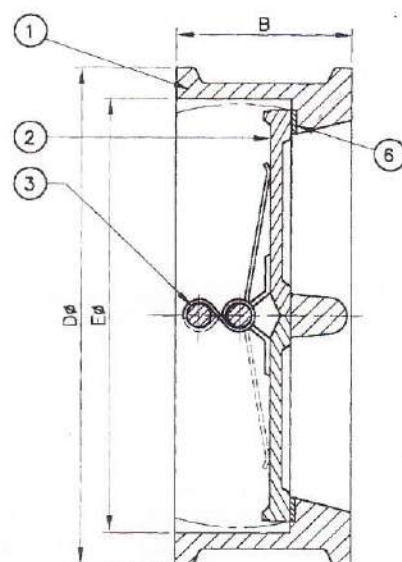
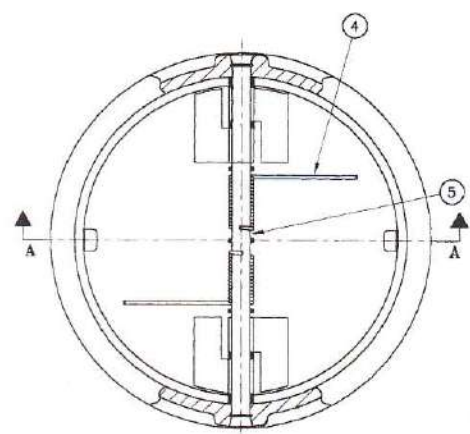
PART LIST

PART	DESCRIPTION	MATL. & SPCN.
1	BODY	C.I. / C.S. / SS.
2	CLOSURE PLATE	C.I. / C.S. / SS.
3	STOP PIN	S.S. AISI 410 / 304
4	SPRING	S.S. AISI 410 / 304
5	HINGE PIN	S.S. AISI 410 / 304
6	BODY RING	G.M. / SS / EPDM

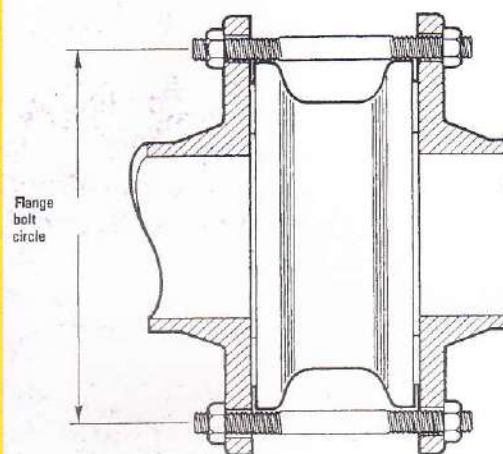
(DIMENSION TABLE) FOR CLASS 150

900	368	1048	-
800	356	939	813
750	305	883	-
700	305	832	-
600	222	716	610
500	219	606	508
450	203	549	203
400	191	514	406
350	184	451	356
300	181	401	324
250	146	338	265
200	127	279	219
150	98	220	165
125	90	197	145
100	73	175	114
80	73	137	89
65	67	124	75
50	60	105	60
SIZE (NB)	B ± 2	D ± 1.5	E $\phi \pm 1.0$

- Manufacturing standard - API : 594
- For C. I. Dual Disc Check Valves pressure rating will be - PN 1.0/PN 1.6 Class - 125#
- Flange ends to suit ANSI B16.5 or Customer's Requirements
- Stellite Seat can also be provided at extra cost
- Nitrile Rubber seat for body / Discs are also available
- By-pass arrangement also available
- Testing standard - API : 598
- Lifting eye bolt shall be provided on 300 mm and above
- Tolerance where not specified $\pm 2\%$
- Rating : ANSI Class 150, 300, 600



SECTION - AA



AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700

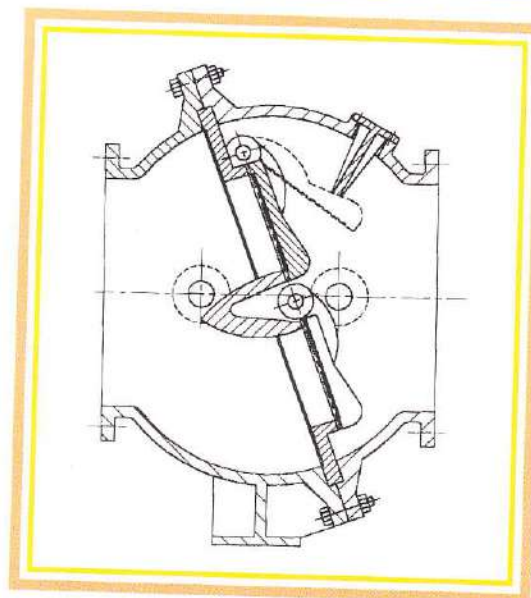
Cast Iron/Cast Steel Multidoor Pattern Swing Check

TYPE REFLUX VALVE

PART LIST

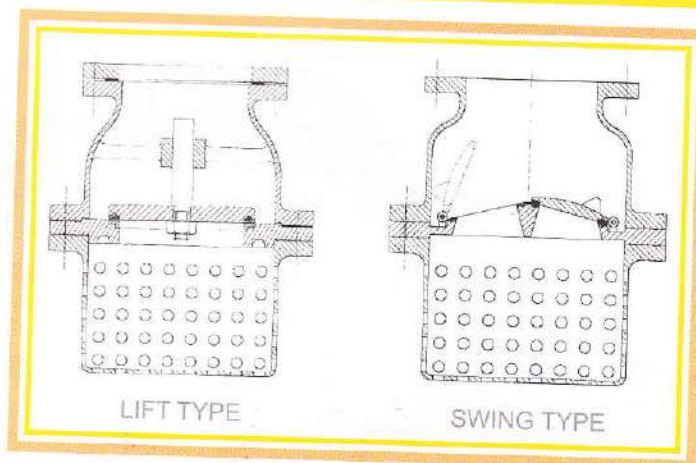
PART	DESCRIPTION	MATL. & SPCN.
1	INLET SHELL WITH DUCKFOOT	CAST STEEL/CAST IRON
2	OUTLET SHELL WITH HOLE FOR STOPPER	CAST STEEL/CAST IRON
3	DIAPHRAGM	CAST STEEL/CAST IRON
4	HINGE PIN	13% Cr. ST. STEEL
5	DOORS	CAST STEEL/CAST IRON
6	STOPPER	CAST STEEL/CAST IRON
7.	FACE RINGS ON DOORS	13% Cr./GUN METAL/RUBBER
8.	SEAT RINGS ON DIAPHRAGMS	13% Cr./GUN METAL/RUBBER
9.	BOLTS & NUTS	CS / MS
10.	BEARING BUSHES	GUN METAL

Valves manufactured as per IS : 5312 (Part-2)
 Flange and Drilled Dimn. as per Customer's Requirement
 Pressure rating : PN - 0.6, PN - 1.0.
 Size : 500 NB - 1200 NB



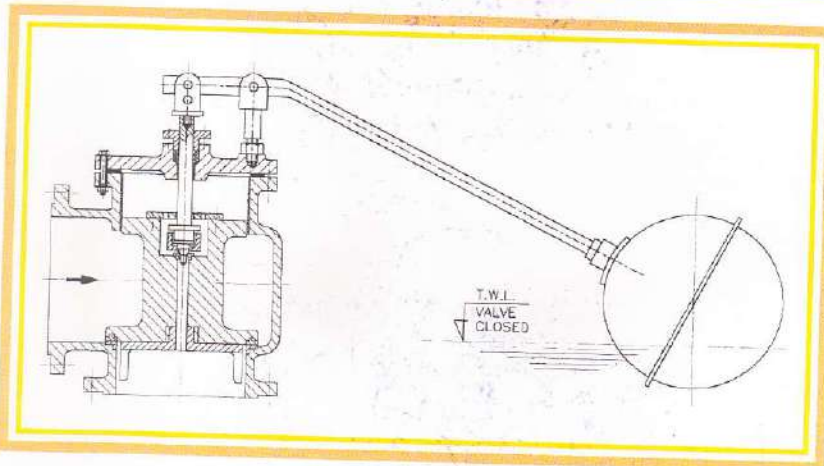
Foot Valve

Construction	Swing/Lift type
Body Materials	Cast Iron
Trims	Leather/Rubber / Bronze / Stainless Steel
End Connection	Flanged IS/BS/ASA
Mfg. Standard	IS : 4038
Pressure Class	PN 2.5, PN4, PN6, PN10
Sizes	25 mm to 450 mm



Float Valve

Construction	Bolted Cover, Angle Pattern
Body Materials	Cast Iron / Cast Steel
Trims	Bronze/Stainless Steel
Lever Fulcrum	Mild Steel
Float	Copper/Stainless Steel
End Connection	Flanged BS/ASA/IS/DIN
Mfg. Standard	Maker's Standard (Similar to G & K)
Pressure Class	NP 10
Sizes	25 mm to 300 mm
Special Features	Pilot Operated



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STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

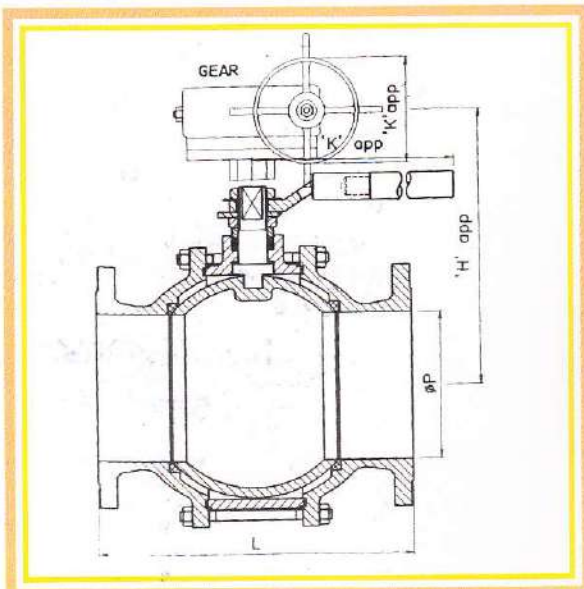
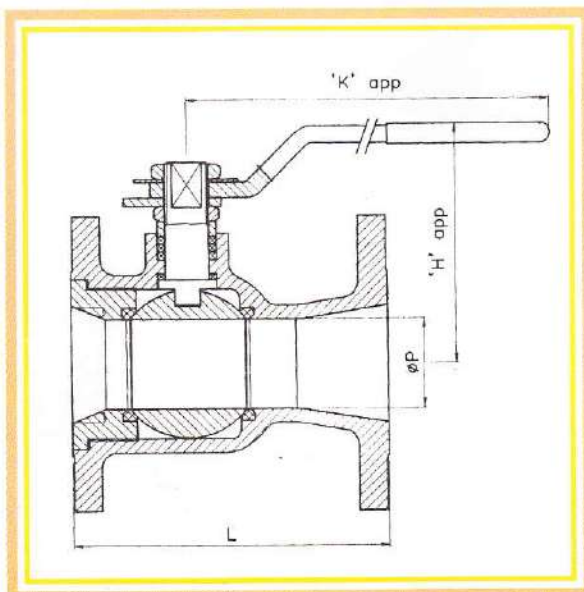
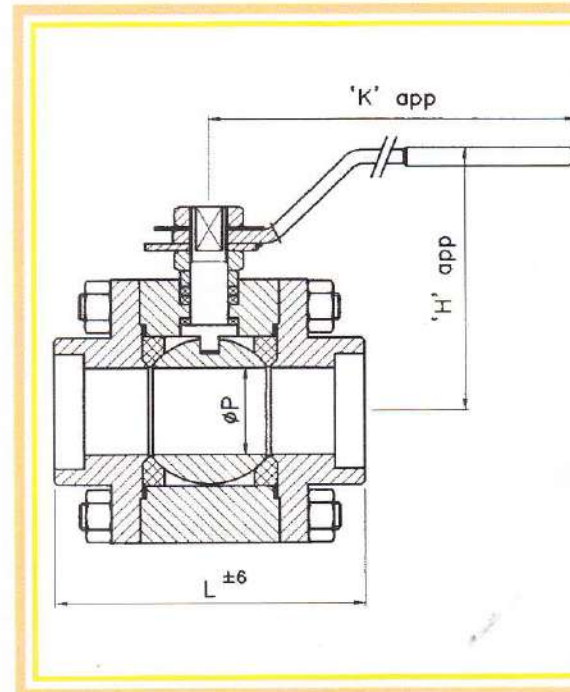
Ball Valve Class 150/300/800



BS 5351 / API 6D

MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	CF8	CF8M
BALL	304/CF8		316/CF8M
SEAT	PTFE		
SPINDLE	410/ 304	304	316
GLAND BUSH	410/ 304	304	316
HANDLE	STEEL WITH PVC CAP		
HANDLE NUT	STEEL	304	
STUD & NUT	B7/ 2H		
GASKET	PTFE		
GLAND PACKING	PTFE		
BOTTOM WASHER	PTFE		
END PIECE	WCB	CF8	CF8M
GLAND NUT	CARBON STEEL	304	316
POSITION INDICATOR	ALUMINIUM/SS		



CLASS 150 (DIMENSION TABLE)

VALVE SIZE mm	25	40	50	65	80	100
L	127	165	178	190	203	229
H app	95	100	125	140	175	195
ØK app	220	220	220	320	320	385
ØP	17	28	36	50	57	75
Wt. kg app	3	6	8.5	17	21	30

CLASS 300 (DIMENSION TABLE)

VALVE SIZE mm	25	40	50	65	80	100
L	165	190	216	241	283	305
H app	95	100	125	140	175	195
ØK app	220	220	220	320	320	385
ØP	17	28	36	50	57	75
Wt. kg app	6	9	16	29	33	45

CLASS 800 (DIMENSION TABLE)

VALVE SIZE mm	15	20	25	32	40	50
L	80	85	100	115	130	150
L1	275	280	300	315	320	350
'H' app	70	80	90	105	110	125
'K' app	130	140	160	240	240	240
ØP	12	19	24	30	37	50
Wt. kg app	1.4	2	3.5	6	7	8



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STEAM & MINING INDUSTRIES

Cast Iron Ball Valve



BS 5351

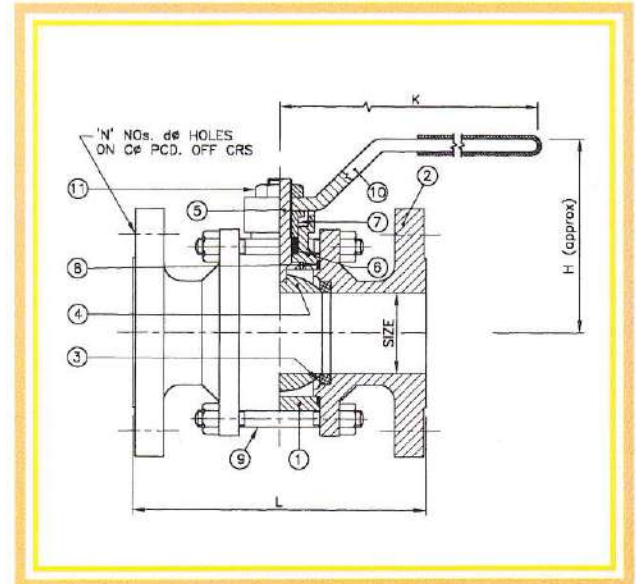
PART LIST

PT	DESCRIPTION	MATL. & SPCN.
1.	BODY	C.I. IS : 210 FG 200
2.	ADOPTOR	C.I. IS : 210 FG 200
3.	SEAT	PTFE
4.	BALL	ST. STEEL AISI 304 / 316
5.	SPINDLE	AISI 304 / 316
6.	PACKING	PTFE / ASBESTOS
7.	GLAND NUT	AISI 304
8.	GASKET	PTFE
9.	STUDS & NUTS	CARBON STEEL
10.	LEVER	MS WITH PVC SLEEVE
11.	LOCKNUT	CS

(DIMENSION TABLE)

150	394	285	838
100	229	195	450
80	203	170	400
65	190	150	400
50	178	100	260
40	165	95	220
25	127	60	135
20	117	55	110
15	108	50	110
SIZE	L ± 2	H (Approx)	K ± 5

- Valves manufactured generally as per BS : 5351
- Valves can be supplied with Pneumatic / Electric Actuator.
- Higher-Sizes of Valves (upto 400 NB) can be supplied on request.



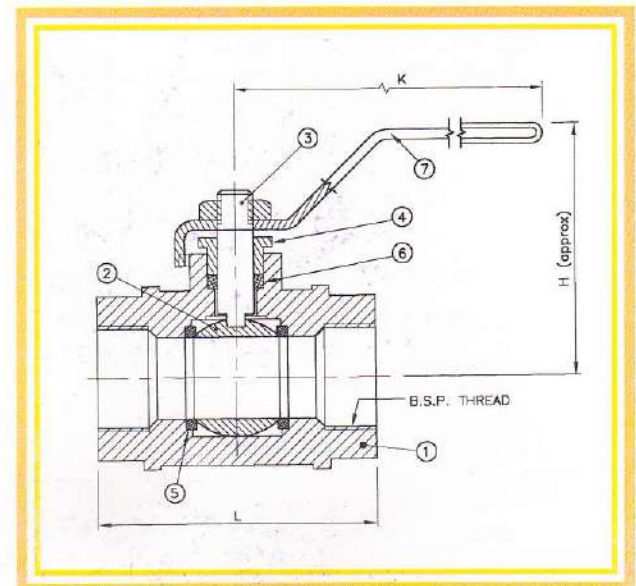
Cast Iron Ball Valve Screwed End SINGLE PIECE DESIGN

PART LIST

PT	DESCRIPTION	MATL. & SPCN.
1.	BODY	CAST IRON IS : 210 F 200
2.	BALL	S.S. AISI 304
3.	STEAM	S.S. AISI 304
4.	GLAND	S.S. AISI 304
5.	SEAT	PTFE
6.	PACKING	PTFE
7.	LEVER	MS
8.	LEVER SLEEVE	P.V.C.

(DIMENSION TABLE)

50	125	100	260
40	105	95	220
32	95	75	170
25	85	60	135
20	75	55	110
15	65	50	110
SIZE	L ± 2	H (Approx)	K ± 5



- Valves manufactured generally as per BS : 5351
- End Connection : B.S.P.F. - Screwed end
- Hydrostatic Test Pressure - Body - 435 Psig, Seat - 320 Psig.



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STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

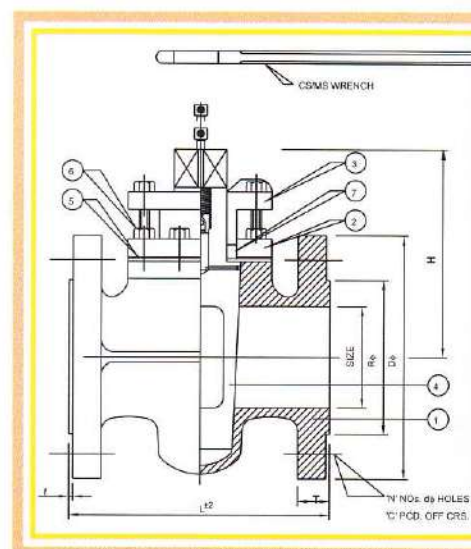
CS/SS Plug Valve Class - 125/150/300



API 6D

PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CI / CS / SS
2	COVER	CI / CS / SS
3	GLAND	CI / CS / SS
4	PLUG	CI / CS / SS
5	GASKET	CAF IS: 2712 Gr.C
6	BOLTS & NUTS	CS / MS
7	GLAND PACKING	PTFE

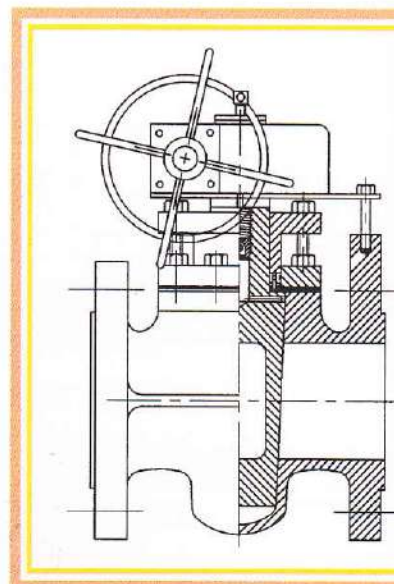


ASA 125 / 150 Dimensions

250	330	365	406	30.2	361.9	12	25	1.6	324	GEAR
200	292	327	343	28.6	298.4	8	22	1.6	270	
150	267	292	279	25.4	241.3	8	22	1.6	216	WRENCH
100	229	230	229	23.9	190.5	8	19	1.6	157	
80	203	208	191	23.9	152.4	4	19	1.6	127	
65	191	180	178	22.3	139.7	4	19	1.6	105	
50	178	152	152	19.1	120.6	4	19	1.6	92	OPERATOR
SIZE	L ⁺²	H APPROX	D ϕ ⁺¹	T ⁺¹	C ϕ ⁺¹	N	d ϕ	f	R ϕ ⁺¹	

ASA 300 Dimensions

250	457	450	444	47.6	387.3	16	29	1.6	324	GEAR
200	419	415	381	41.3	330.2	12	25	1.6	270	
150	403	283	318	36.5	269.9	12	22	1.6	216	WRENCH
100	305	246	254	31.8	200	8	19	1.6	157	
80	283	230	210	28.6	168.3	4	19	1.6	127	
65	241	105	191	25.4	149.2	4	19	1.6	105	
50	216	176	165	22.2	127	4	19	1.6	92	OPERATOR
SIZE	L ⁺²	H APPROX	D ϕ ⁺¹	T ⁺¹	C ϕ ⁺¹	N	d ϕ	f	R ϕ ⁺¹	



NOTES :-

- DESIGN STD. : API 6D.
- HYDROSTATIC TEST PRESSURE

FOR	BODY	SEAT
ASA - 125	24Kg/Cm ²	16Kg/Cm ²
ASA - 150	32Kg/Cm ²	22Kg/Cm ²
ASA - 300	77Kg/Cm ²	58Kg/Cm ²

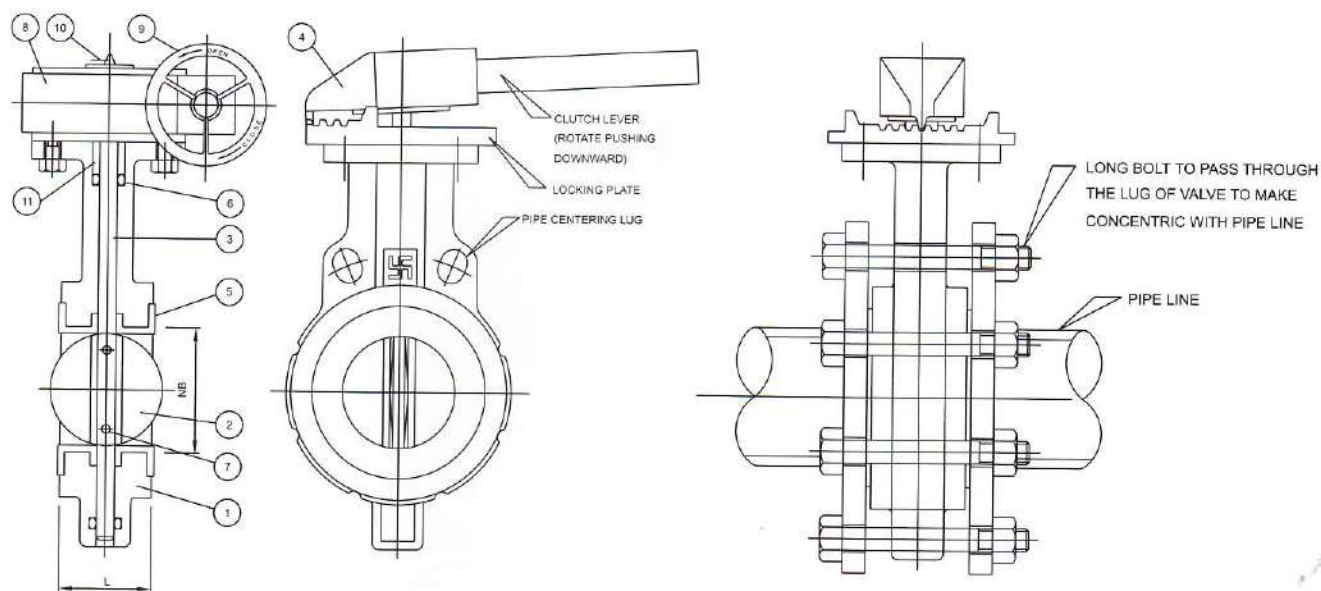


AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

Slim Seal Wafer Type Butterfly Valve

IS : 13095 / BS : 5155



PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CI / CS / SS
2	DISC	CI / CS / SS
3	SHAFT	S.S. AISI 410 / BRASS
4	LEVER	M.S.
5	SEATING	NITRILE / NEOPRENE / EPDM / PTFE
6	'O' RING	-do-
7	PIN	AISI 410 / 304
8	GEAR BOX	MANUFACTURER'S STD.
9	HAND WHEEL	C.I. / STEEL
10	INDICATOR	ALUMINIUM

OPER- ATOR	LEVER OPERATED						GEAR OPERATED							
L ^{±1}	43	46	46	52	56	56	60	68	78	92	102	114	127	154
NB	50	65	80	100	125	150	200	250	300	350	400	450	500	600

- VALVE MANUFACTURED AS PER IS:13095/BS:5155.
- MAXIMUM WORKING PRESSURE : 25 Kg/Cm².
- TESTING SHALL BE AS PER IS:13095/BS:5155.
- Valves Can be supplied with Pneumatic/Electric Actuator on request.



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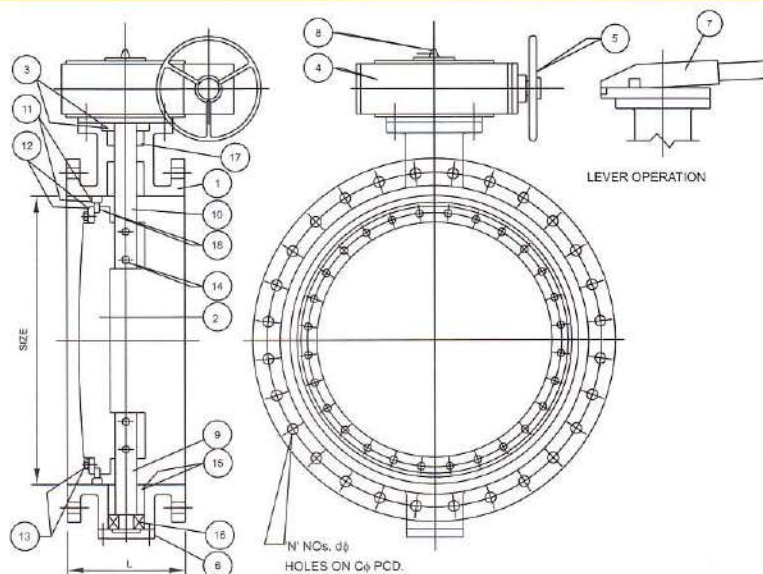
STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

Double Flanged Butterfly Valve

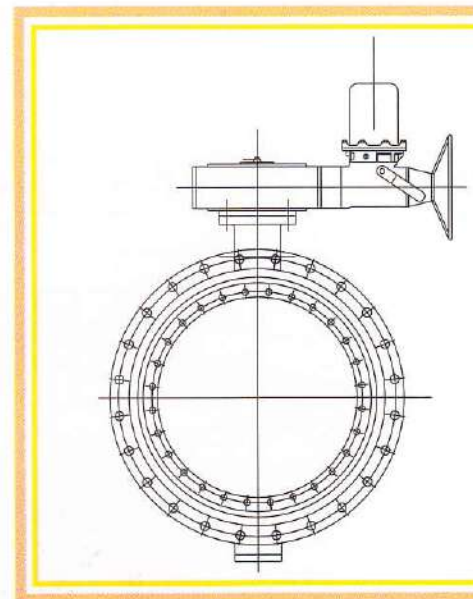


IS : 13095 / BS : 5155



PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CI / CS
2	DISC	CI / CS / SS
3	GLAND	CI / CS
4	GEAR BOX	MANUFACTURER'S STD.
5	HAND WHEEL	C.I. / STEEL
6	END COVER	CARBON STEEL
7	LEVER	M.S.
8	INDICATOR	ALUMINIUM
9	VALVE SHAFT DRIVEN	ST. STEEL AISI 410 / BRASS
10	VALVE SHAFT DRIVING	-do-
11	BODY SEAT RING	S.S. AISI 410 / 304
12	SEAT RETAINER PLATE	S.S. AISI 410 / 304
13	SET SCREW	S.S.
14	FIXING BOLT	S.S.
15	BUSHES	GUN METAL (IS:318, LTB-2) POLY ACETOL
16	THRUST BLOCK	GUN METAL (IS:318, LTB-2)
17	PACKING	TEFLON/RUBBER 'O' RING
18	SEAL	NITRILE/NEOPRENE/EPDM



OPER- ATOR	LEVER OPERATED										GEAR OPERATED										
L	108 ⁺³	112 ⁺¹	114 ⁺¹	127 ⁺¹	140 ⁺¹	140 ⁺¹	152 ⁺¹	165 ⁺¹	178 ⁺¹	190 ⁺¹	216 ⁺²	222 ⁺²	229 ⁺²	267 ⁺²	282 ⁺²	318 ⁺²	330 ⁺²	410 ⁺³	470 ⁺³	530 ⁺³	600 ⁺³
SIZE	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	1600

- VALVE MANUFACTURED AS PER IS:13095/BS:5155.
- FLANGE END DRILLED AS PER IS:1538 (T-4&5)/BS:4504/ ANSI : BI 6.5
- MAXIMUM WORKING PRESSURE : 25 Kg/Cm².
- Valves Can be supplied with Pneumatic/Electric Actuator on request.



AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

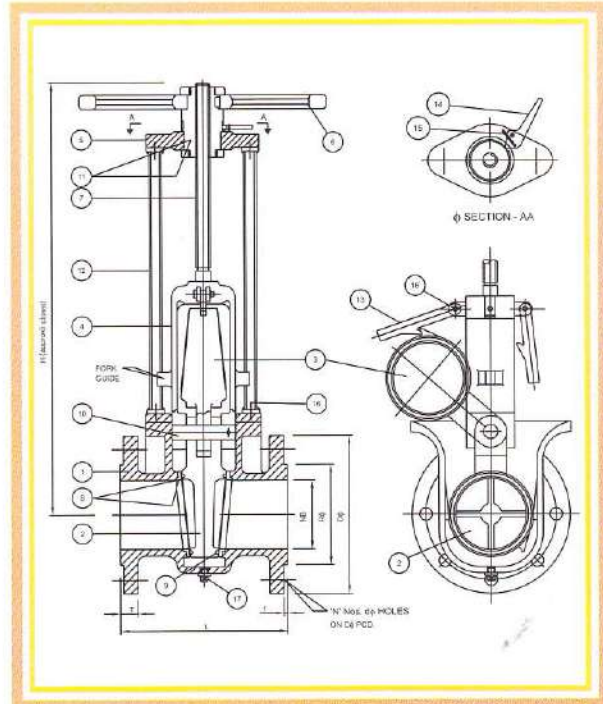
1, A. J. C. BOSE ROAD, KOLKATA-700

CS Hammer Blind Valve Class-150



API-600

600	508	2360	813	749.3	47.6	20	35	692	1.6
500	457	1900	698	635	42.9	20	32	584	1.6
450	406	1650	635	577.9	39.7	16	32	533	1.6
400	406	1475	597	539.8	36.5	16	29	470	1.6
350	381	1350	533	476.3	35	12	29	413	1.6
300	356	1225	483	431.8	31.8	12	25	381	1.6
250	330	1100	406	361.9	30.2	12	25	324	1.6
200	292	950	343	298.4	28.6	8	22	270	1.6
150	267	750	279	241.3	25.4	8	22	216	1.6
100	229	625	229	190.5	23.9	8	19	157	1.6
80	203	500	191	152.4	23.9	4	19	127	1.6
50	178	450	152	120.6	19.1	4	19	92	1.6
NB	L ^{±3}	H APPROX	D ^{±2}	C ^{±1.5}	T ^{±2}	N	d ^φ	R ^{±1}	f



PART LIST

PART No.	DESCRIPTION	MATL. & SPCN.
1	BODY	CAST STEEL ASTM A 216 Gr.WCB
2	BLIND WEDGE	CAST STEEL ASTM A 216 Gr.WCB
3	HOLLOW WEDGE	CAST STEEL ASTM A 216 Gr.WCB
4	FORK	CAST STEEL ASTM A 216 Gr.WCB
5	BRIDGE	CAST STEEL ASTM A 216 Gr.WCB
6	HAND WHEEL (NON RISING)	CAST STEEL / FORGED STEEL / MALLEABLE IRON
7	STEM (RISING)	S.S. AISI 410
8	BODY SEAT RING	S.S. AISI 410
9	WEDGE RING	'O' RING NITRILE / NEOPRENE
10	WEDGE PIN	S.S. AISI 410
11	SLEEVE	GUN METAL IS:318 LTB-2
12	PILLAR 'RAIL' TYPE	CARBON STEEL (FABRICATED)
13	LOCKING ARM	CARBON STEEL
14	GEAR BOX	MANUFACTURER'S STD.
15	DRAIN PLUG	CARBON STEEL
16	LOCKING ARM PIN	S.S. AISI 410
17	NUTS	CARBON STEEL A 194 2H

- DESIGN CODE : API 600.
- FACE TO FACE DIMENSION AS PER ANSI B 16.10.
- FLANGED END DRILLED TO ANSI B 16.5 CI-150 RF SERRATED.
- TESTING STANDARD TO API 598.
- RATING : CLASS 150.
- HYDRAULIC TEST PRESSURE – BODY-32 Kg/Cm², Seat-22 Kg/Cm².
- GEAR OPERATED / ELECTRIC ACTUATOR OPERATED ON SPECIFIC REQUIREMENT.



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STEAM & MINING INDUSTRIES

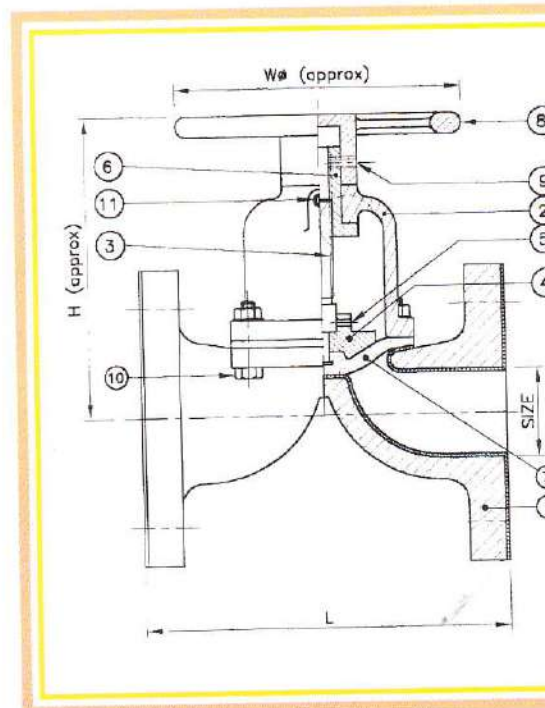
1, A. J. C. BOSE ROAD, KOLKATA-700 020

Diaphragm Valve

BS : 5156

PART LIST

PART	DESCRIPTION	MATL. & SPCN.
1	BODY	C.I. / C.S. / SS. WITH NEOPRENE RUBBER LINING
2	BONNET	C.I. / C.S. / S.S.
3	SPINDLE	EN - 8 / SS
4	DISC	C.I. / C.S. / S.S.
5	DISC PIN	EN - 8 / SS
6	BUSH	BRONZE / Ni
7	DIAPHRAGM	NEOPRENE/ PTFE
8	HAND WHEEL	C.I.
9	LOCK SCREW	CARBON STEEL
10	BOLTS & NUTS	ASTM A 193 B7 / A 194 2H
11	GREASE NIPPLE	BRASS



(DIMENSION TABLE)

Wφ	60	75	90	115	140	165	195	255	310	370	480	580
H	70	82	100	125	150	175	195	240	290	355	465	540
L ± 2	108	118	127	159	191	216	254	305	356	406	521	635
SIZE mm	15	20	25	40	50	65	80	100	125	150	200	250

Design Standard	BS 5156
Sizes	15mm to 300 mm
Type	Bolted Bonne, Weir Type
Pressure Rating	125#, 150#
Material of Construction	i) Cast Iron lined or Unlined, Cast Carbon Steel, Cast Stainless Steel (CF8, CF8M) ii) Lining of Natural Rubber, Ebonite, Neoprene, Hypalon, Butyle, Glass & Lead. iii) Diaphragms of Natural Rubber, Neoprene, Hypalon, Butyle, Buna/N PTFE (TEFLON)
End Connection	For Lined valves : Flanged to ANSI, BS or DIN, For Unlined valves : Flanged to ANSI, BS Screwed to BSP, BSPT, NPT Socket Weld to ANSI B 16.11. Butt Weld to ANSI B 16.25.



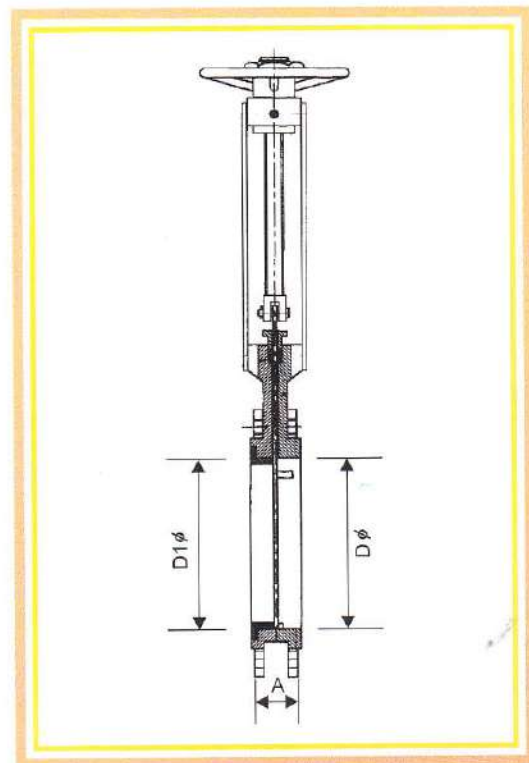
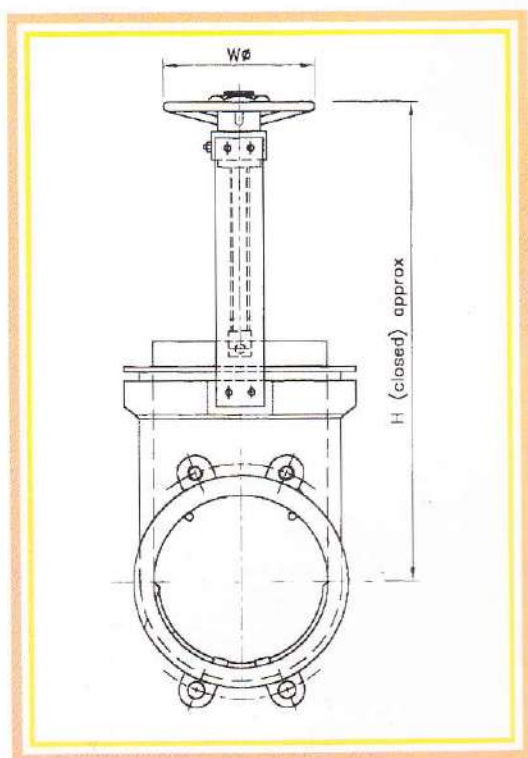
AN ISO 9001 : 2000 CERTIFIED CO

STEAM & MINING INDUS

Knife Gate Valve



Design	Manufacturers' Standard
Size	40 MM to 600 MM
End Connection	Flanged
Materials of Construction Body	CI with Inner Body SS or Complete SS
Spindle	SS to AISI 410.
Seat Ring	SS-304/316
Wedge	SS-304 / 316 / 316L



(DIMENSION TABLE)

Size (mm)	Face to Face A		D	D1		W	H
	M.S.	R.S.		M.S.	R.S.		
50	48	51	62	51	39	150	280
65	48	51	75	61	52	150	300
80	51	54	89	76	64	200	325
100	51	54	116	101	95	200	415
125	57	61	140	127	110	200	450
150	57	61	168	154	145	250	495
200	70	74	219	203	185	300	610
250	70	74	273	238	223	350	710
300	76	81	324	290	270	350	820
350	76	81	355	330	320	400	890
400	89	94	406	378	350	400	1000
450	89	94	457	431	400	500	1100
500	114	120	508	479	445	600	1230
600	114	120	610	581	544	700	1460

Model SM - 4		Flange	Test Pressure		Seat Ring	Max Operating Pressure	Max Operating Temp.	Rate of leakage at Seal
			Body	Seat				WTP 2.8 kgf/cm ²
50-600 mm	Standard MSS SP 81	ANSI B-16 1-125 lbs and B 16.5 -150 lbs ND-10	WTP 11 kgf/cm ²	WTP 2.8 kgf/cm ²	SS 304	WTP 2.8 kgf/cm ²	350°C	40cc/mm/in.
					SS 316		350°C	40cc/mm/in.
					NBR		80°C	Tight Shut off
					EPDM		100°C	
					PTFE		230°C	40cc/mm/in.

M.S. - Metal Seat
R.S. - Resilient Seat



AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

Single Faced Sluice Gate

IS : 3042

SPECIFICATIONS :

SINGLE FACED SLUICE GATE CONSISTS OF CAST IRON FRAME AND DOOR. MS STEM, GM DOOR FACES AND FRAME SEAT RINGS AND STEM NUT.

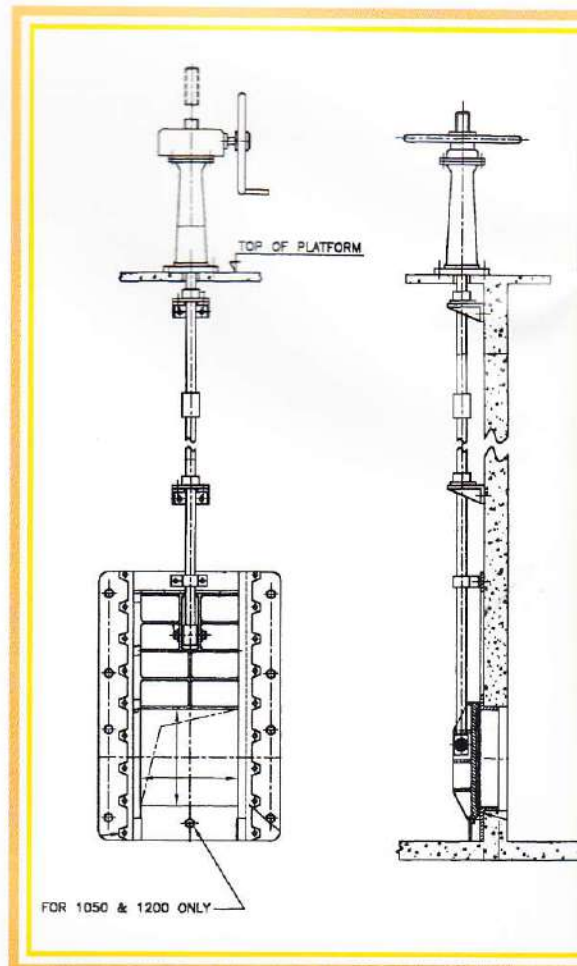
SLUICE MAY BE CIRCULAR, SQUARE OR RECTANGULAR IN SHAPE AND BOTH RISING & NON-RISING TYPES.

SPECIAL REQUIREMENTS, CATERED FOR :

- Sluice with SS Trims
- Sluices in MS fabricated construction.
- Sluice to Customer special requirements.
- Sluices to other national and international standard.

OPTIONAL FEATURES :

- SPUR / WORM / BEVEL GEAR OPERATION
- STAND POST AND EXTENDED ROD WITH COUPLINGS AND WALL BRACKETS.
- ELECTRIC / HYDRAULIC / PNEUMATIC POWER
- THIMBLE MOUNTED AS PER IS : 13349



PART LIST

PT	DESCRIPTION	MATL. & SPCN.
1	FRAME	C.I. IS : 210 FG 200
2	DOOR	C.I. IS : 210 FG 200
3.	GUIDE STRIP	C.I. IS : 210 FG 200
4.	HANDLE WHEEL	C.I. IS : 210 FG 200
5.	HEAD STOCK	C.I. IS : 210 FG 200
6.	SPINDLE	S.S. 410 / 304 M.S.
7.	FRAME FACE RING	G.M. LTB - 2, IS : 318/81
8.	DOOR FACE RING	G.M. LTB - 2, IS : 318/81
9.	GUIDE	G.M. LTB - 2, IS : 318/81
10.	SPINDLE NUT	H.T.B., IS : 320/80
11.	BOLTS & NUTS	CARBON STEEL IS : 1367
12.	EXTN. ROD	M.S. / S.S.
13.	COUPLING	C.I. IS : 210 FG 200
14.	GUIDE BRACKET	C.I. IS : 210 FG 200

RANGE & RATING OF SLUICE

Class	Size	Water Pressure (Seating) in mm (Max.)
1.	200 to 300	6.5
	350 to 450	4.5
	500 to 600	3.5
2.	200 to 2000	15

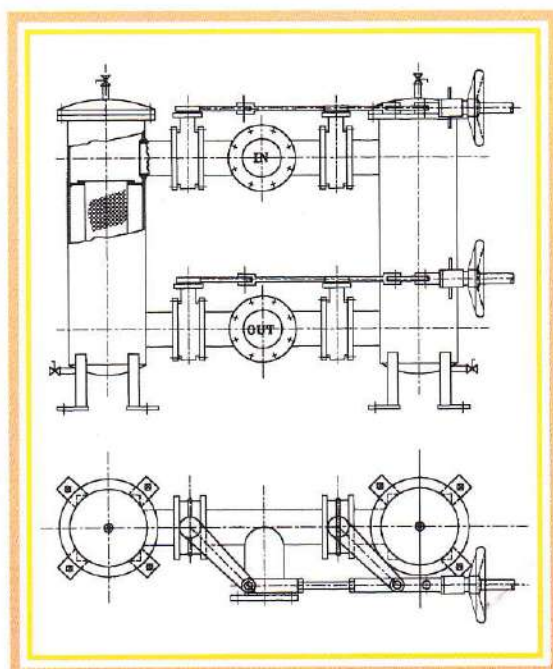


AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 02

End Connection	Flanged
Pressure Ratings	ANSI B 16.5 CLASS : 150, 300 & 600
Screen available	2 mesh to 800 mesh (upto 5 microns)
Sizes available	15 NB to 600 NB
Standard Free Flow Area	300% Pipe Flow Area
	Higher Flow Area on demand
Pressure Drop	0.02 BAR in 100% clean condition
	0.05 BAR in 50% clean condition
Free Flow Area	In Cast construction : Normal 3 times
	In Fabricated construction : 3 times & above
Special Strainers on Demand	Rubber Lined, PTFE Lined, Jacketed, Large Screen Area

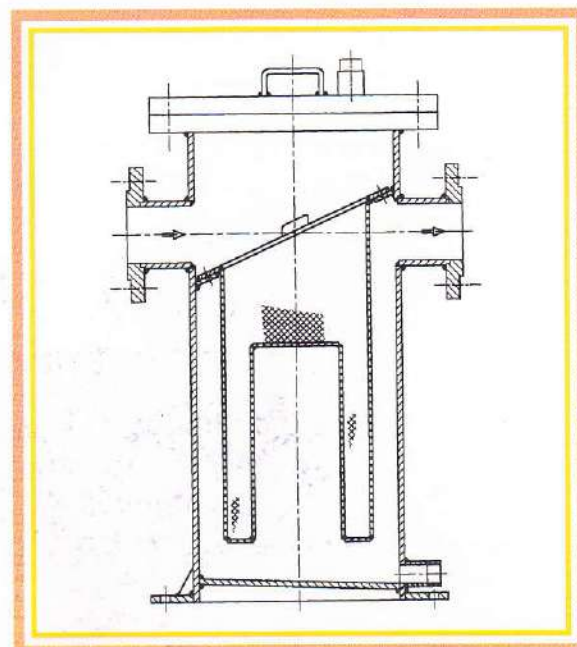


DUPLEX FILTER / STRAINER

Size : 1½"NB to 16" NB

MATERIAL OF CONSTRUCTION

Stainless Steel	ASTM A351 gr. CF8 (SS 304), CF3 (SS304L), CF8M (SS316), CF3M (SS316L), CF8C (SS321) (Also fabricated in equivalent grade)
Cast Steel	ASTM A 216 gr. WCB, A217 gr. WC6, A352 gr. LCB (Also fabricated in equivalent grade)
Cast Iron	IS 210 gr. FG 200 TO 250.



BASKET FILTER/STRAINER (SIMPLEX TYPE)

Size : 2"NB to 24" NB

"Y" Strainers

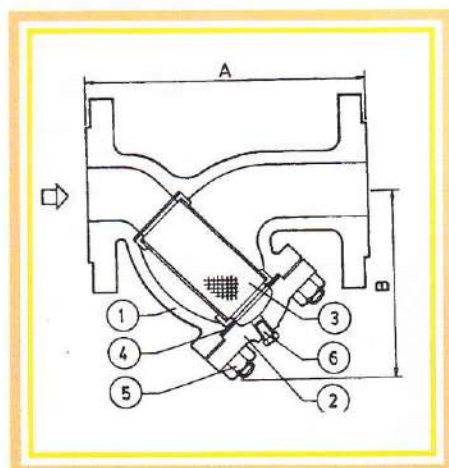


FIGURE - 1

End Connection	Flanged/Buttwelding/Screwed/Socketweld
Pressure Ratings	
Flanged/Buttwelding	ANSI B 16.5 CLASS : 150, 300 & 600
Screwed / Socketweld	ANSI B 16.11 CLASS : 800
Screen available	2 mesh to 200 mesh (upto 80 microns) Finer on Demand
Sizes available	Flanged & Buttwelding : 15 NB to 600 NB Screwed & Socketweld : 15 NB to 50 NB
Special Strainers on Demand	Rubber Lined, PTFE Lined, Jacketed
Standard Free Flow Area	300% Pipe Flow Area
Pressure Drop	0.02 BAR in 100% clean condition (Average) 0.05 BAR in 50% clean condition (Average)

MATERIAL SPECIFICATIONS

SL. No.	PART LIST	STANDARD SPECIFICATIONS			Optional Specification
		STEEL	SS 304	SS 316	
1,2	BODY, COVER	A216 GR WCB	A351 GR CF8	A351 GR CF8M	CF3, CF3M, Alloy 20
3	SCREEN	AISI 304	AISI 304	AISI 316	AISI 304L, 316L
4	GASKET	CAF	PTFE	PTFE	Spiral SS 304, 316, 304L with CAF/Graphite Filter
5	STUDS & NUTS	A193 B7 & A 194 2H	A193 B8 & A 194 Gr8	A 193 B8M & A 14 Gr8M	As per Client's requirements
6	DRAIN PLUG	AISI 304	AISI 304	AISI 316	AISI 304L, 316L

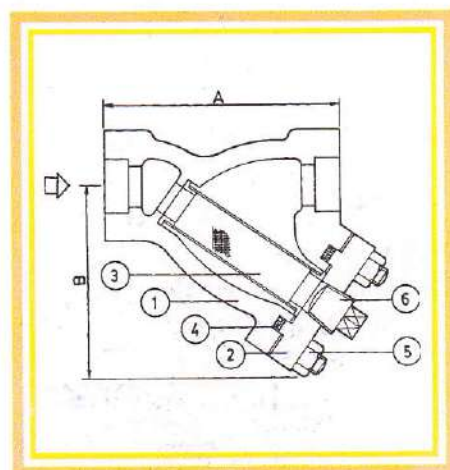


FIGURE - 2

FLANGED & BUTTWELDING (DIMENSION TABLE Fig. - 1)

Size (mm)	15	20	25	40	50	65	80	100	150	200	250
A 150 #	140	152	165	203	229	280	317	368	470	597	673
A 300 #	146	160	171	210	235	287	335	385	493	623	707
A 600 #	165	191	216	241	292	330	356	432	559	660	788
B	105	111	140	185	205	240	290	320	455	520	550

SCREWED & SOCKETWELD (DIMENSION TABLE Fig. - 2)

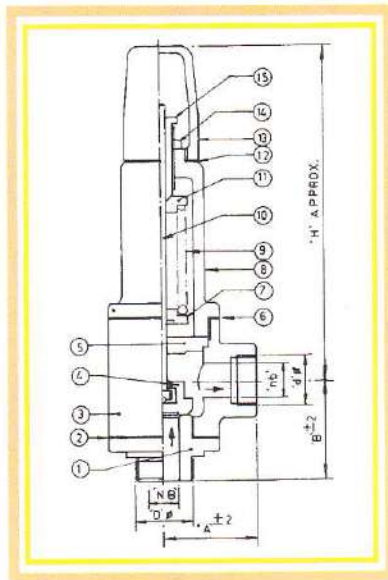
Size (mm)	15	20	25	32	40	50
A	95	105	146	160	173	216
B	80	90	110	130	140	150



AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

Forged Steel & Cast Steel Safety Relief Valve



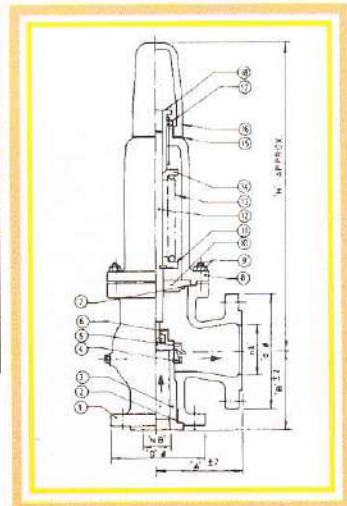
SIZE 'NB' X 'NB'	"A"	"B"	"C"	"T"	"H"
15X15	52	78	1/2"	1/2"	280
15X20	52	78	1/2"	3/4"	280
15X25	52	78	1/2"	1"	280
20X20	52	78	3/4"	3/4"	280
20X25	52	78	3/4"	1"	280
25X25	52	78	1"	1"	280
25X32	65	85	1"	1 1/4"	295
25X40	65	85	1"	1 1/2"	295
25X50	75	85	1"	2"	300
32X32	65	85	1 1/4"	1 1/4"	295
32X40	65	85	1 1/4"	1 1/2"	295
32X50	75	85	1 1/4"	2"	300
40X40	65	90	1 1/2"	1 1/2"	305
40X50	75	90	1 1/2"	2"	305
50X50	75	90	2"	2"	305

S.No.	DESCRIPTION	QTY.	MATERIAL
1	BODY	1	ASTMA105
2	GASKET	1	COMP. ASBESTOS FIBRE
3	INLET SEAT	1	S.S. AISI410
4	DISC	1	S.S. AISI410
5	GUIDE	1	S.S. AISI410
6	GASKET	1	COMP. ASBESTOS FIBRE
7	SPRING BUTTON	1	CARBON STEEL
8	BONNET	1	CARBON STEEL
9	SPRING	1	SPRING STEEL (C.S.)
10	SPINDLE	1	S.S. AISI410
11	SPRING BUTTON	2	CARBON STEEL
12	GASKET	f	COMP. ASBESTOS FIBRE
13	CAP	1	CARBON STEEL
14	LOCK NUT	1	S.S. AISI410
15	ADJUSTING SCREW	1	S.S. AISI410

Cast Steel Safety Relief Valve

S. No.	DESCRIPTION	QTY.	MATERIAL
1	BODY	1	ASTMA 216 Gr. WCB
2	GASKET	1	COMP. ASBESTOS FIBRE
3	NOZZLE	1	S. S. AISI410
4	BLOWDOWN RING	1	S. S. AISI 410
5	DISC AID	1	S. S. AISI 410
6	DISC	1	S. S. AISI 410
7	GASKET	1	COMP. ASBESTOS FIBRE
8	BONNET	1	ASTMA216Gr. WCB
9	BONNET STUD & NUT	AS REQD.	ASTM A 193 Br. 87 / 194 Gr. 2H
10	GUIDE	1	S. S. AISI 410
11	SPRING BUTTON	1	CARBON STEEL
12	SPINDLE	1	S. S. AISI 410
13	SPRING	1	SPRING STEEL (C.S.)
14	SPRING BUTTON	1	CARBON STEEL
15	GASKET	1	COMP. ASBESTOS FIBRE
16	CAP	1	CARBON STEEL
17	LOCK NUT	1	S. S. AISI 410
18	ADJUSTING SCREW	1	S. S. AISI 410

SIZE	"A"	"B"	"D"	"d"	"H"
25X50	114	105	108	152.4	255
40X50	121	124	127	152.4	306
40X65	121	124	127	178	346
40X80	124	130	127	190.5	346
50X80	124	137	152.4	190.5	413
65X100	143	137	178	229	413
80X100	162	156	190.5	229	514
80X150	216	198	190.5	279.5	514
100X150	210	197	229	279.5	648
150X200	241	240	279.5	343	710
150X250	267	240	279.5	406.5	710
200X250	279	276	343	406.5	1044



SIZE				ORIFICE AREA			ORIFICE DSG. LETTER
INLET		OUTLET					
MM.	RATING	MM	RATING	SQ. IN	SO. C.M.	SO. MM	
25	150/300	50	150	0.110	0.71	71.0	D
25	150/300	50	150	0.196	1.265	126.5	E
40	150/300	50	150	0.307	1.981	198.1	F
40	150/300	65	150	0.503	3.245	324.5	G
40	150/300	80	150	0.785	5.065	506.5	H
50	150/300	80	150	1.287	8.303	830.3	J
65	150/300	100	150	1.287	8.303	830.3	J
80	150/300	100	150	1.838	11.858	1185.8	K
80	150/300	100	150	2.853	18.406	1840.6	L
80	150/300	150	150	1.838	11.858	1185.8	M
100	150/300	150	150	3.60	23.226	2322.6	N
100	150/300	150	150	4.34	28.000	2800.0	O
100	150/300	150	150	6.38	41.161	4116.1	P
150	150/300	200	150	11.05	71.290	7129.0	Q
150	150/300	200	150	16.0	103.226	10322.6	R
150	150/300	250	150	16.0	103.226	10322.6	R
200	150/300	250	150	26.0	167.742	16774.2	T

- MANUFACTURING STANDARD : API-526
- ENDS FLANGED (DRILLED OR UNDRILLED) AS PER ASME 16.5, CLASS 150 R.F.
- BODY HYDROSTATIC TEST PRESSURE - TWICE THE SET PRESSURE
- SET PRESSURE RANGE 1 BAR TO 100 BAR
- TEST AS PER ASME BPV CODE SECTION VII DIVISION 1.



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STEAM & MINING INDUSTRIES

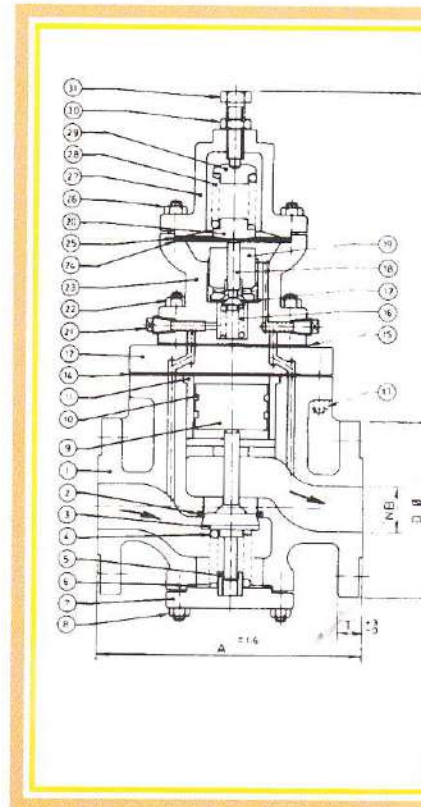
1, A. J. C. BOSE ROAD, KOLKATA-700 020

Cast Steel Pressure Reducing Valve

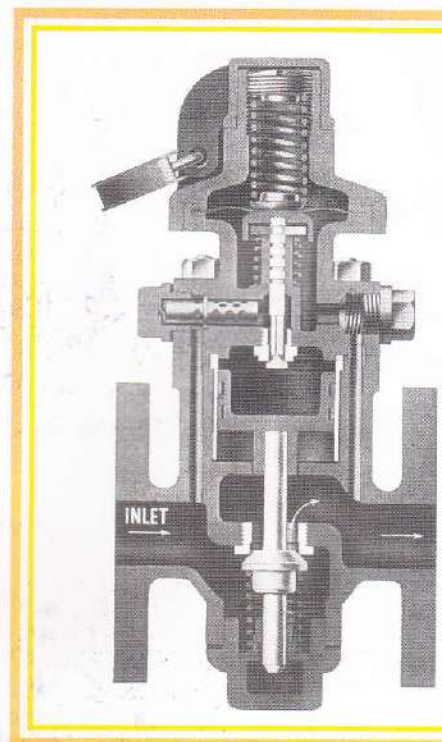


S. No.	DESCRIPTION	QTY.	MATERIAL
1	BODY	1	ASTMA216Gr, WCB
2	SEATING	1	13% Cr.S.S FACING
3	MAIN VALVE DISC	1	S.S. AISI 304
4	MAIN VALVE SPRING	1	SPRING STEEL (C.S.)
5	BUSH	1	S.S. AISI 304
6	BOTTOM FLANGE GASKET	1	COMPRESSED ASBESTOS FIBRE
7	BOTTOM FLANGE	1	CARBON STEEL
8	BOTTOM FLANGE STUD & NUT	AS REQD.	CARBON STEEL
9	PISTON	1	S.S. AISI 304
10	PISTON RING	2	CAST IRON
11	PISTON CYLINDER	1	S.S. AISI 420/AISI 304
12	CENTRE PLATE	1	CARBON STEEL
13	BODY STUD & NUT	AS REQD.	CARBON STEEL
14	CENTRE PLATE GASKET	1	COMPRESSED ASBESTOS FIBRE
15	PILOT VALVE GASKET	1	COMPRESSED ASBESTOS FIBRE
16	PILOT VALVE SPRING	1	SPRING STEEL (C.S.)
17	PILOT VALVE GASKET	1	COMPRESSED ASBESTOS FIBRE
18	PILOT VALVE	1	S.S. AISI 304
19	PILOT VALVE SEAT	1	S.S. AISI 304
20	SPRING BUTTON	1	CARBON STEEL
21	PLUG	2	CARBON STEEL (1/4" B.S.P.)
22	PILOT VALVE BODY STUD & NUT	4	CARBON STEEL
23	PILOT VALVE BODY	1	CARBON STEEL
24	DIAPHRAGM GASKET	2	COMPRESSED ASBESTOS RBRE
25	DIAPHRAGM	1	PHOSPHOR BRONZE
26	HOUSING STUD & NUT	4	CARBON STEEL
27	ADJUSTING SPRING HOUSING	1	ASTMA216Gr. WC/C.S.
28	ADJUSTING SPRING	1	SPRING STEEL (C.S.)
29	SPRING BUTTON	1	CARBON STEEL
30	LOCK NUT	1	CARBON STEEL
31	ADJUSTING BOLT	1	CARBON STEEL

- MAXIMUM INLET PRESSURE - 250 psig.
- MAXIMUM OUTLET PRESSURE - 125 psig.
- MINIMUM OUTLET PRESSUER - 5 psig.
- MAXIMUM WORKING TEMPERATURE - 450°C



SIZE	"A"	"NB"	"D"	"T"	"E"	"N"	"M"	"K"	"H"
1"/25	172	25	121	14.3	63.5	4	18	87.3	300
1½"/40	180	38	140	17.5	82.5	4	18	104.7	340
2"/50	210	51	165	19	102	4	18	127	360
2½"/65	215	64	184	19	114.5	8	18	146	380
3"/80	290	76	203	22.2	127	8	18	165	400
4"/100	342	102	229	25.4	152.5	8	18	190.5	435
6"/150	470	152	305	28.6	210	12	22.2	260.3	480



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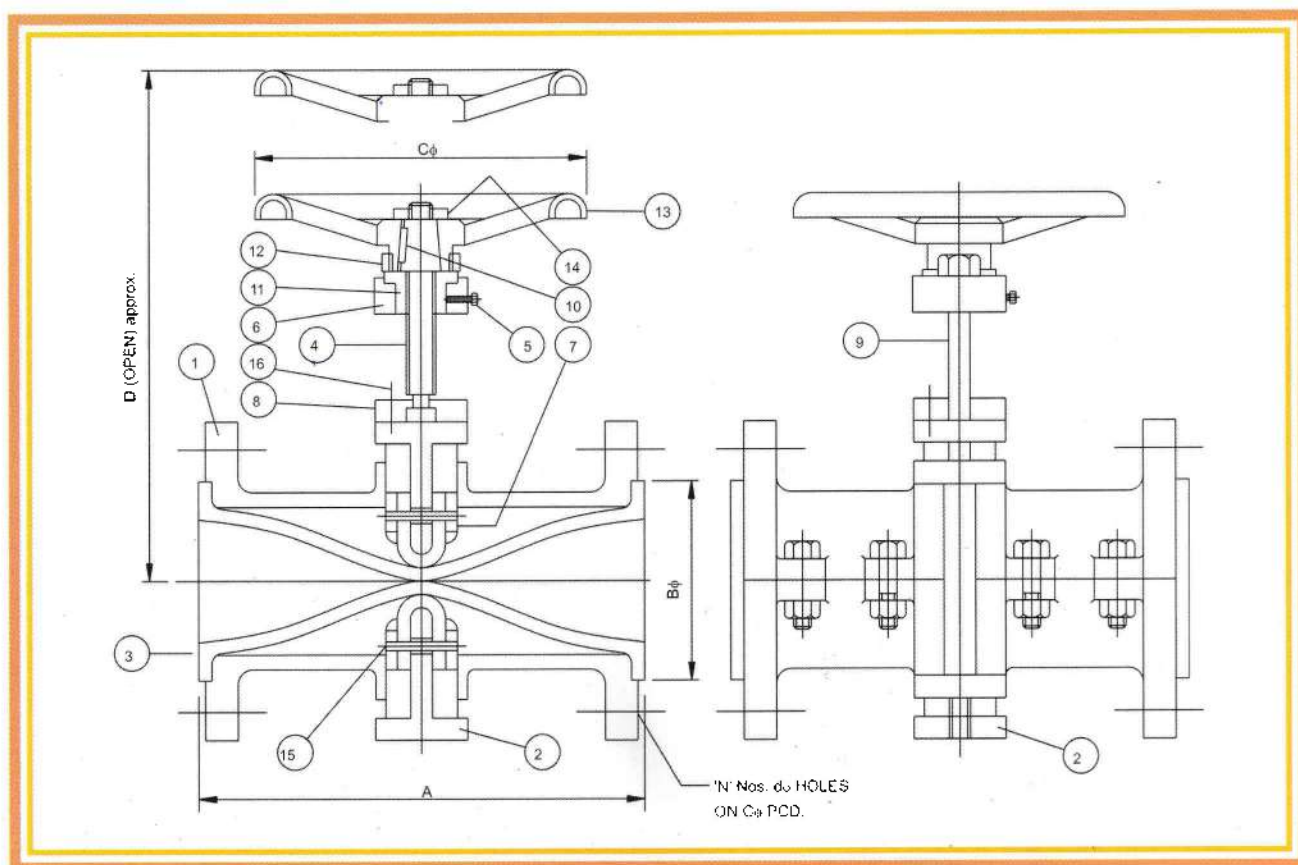
1, A. J. C. BOSE ROAD, KOLKATA-700

PARTS LIST

S.No.	DESCRIPTION	MATERIAL
1	BODY	C.I. IS : 210 FG 200
2	PINCHING BAR	C.I. IS : 210 FG 200
3	SLEEVE	NEOPRENE RUBBER
4	SPINDLE	S.S. AISI 410
5	SET SCREW	M.S.
6	BRIDGE	C.S. A 216 Gr. WCB
7	LUG'S LAMP	M.S.
8	SPINDLE'S CLAMP	G.M.
9	TIE BAR	S.S. AISI 410
10	KEY	M.S.
11	YOKE BUSH	G.M.
12	TRAVEL LIMIT NUT	M.S.
13	WHEEL	C.I. IS : 210 FG 200
14	WHEEL NUT	M.S.
15	LUG CLAMP SCREW	M.S.
16	SPINDLE CLAMP SCR.	M.S.

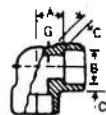
Valve Dimensions

SIZE DN	A	B	C	D
15	95	45	70	128
20	106	50	84	161
25	120	60	124	172
32	130	68	140	186
40	152	80	140	215
50	175	98	164	255
65	205	116	196	270
80	242	122	196	324
100	305	158	306	425
125	356	186	306	460
150	455	215	356	570
200	605	300	550	670
250	772	350	610	800
300	850	400	700	1090

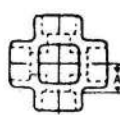


Flange drilling as per BS, IS, ANSI etc.

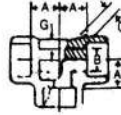
Socket Welding & Threaded Fittings



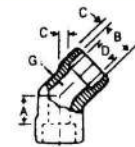
90° EBLOW



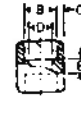
CROSS



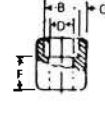
TEE



45° ELBOW



COUPLING



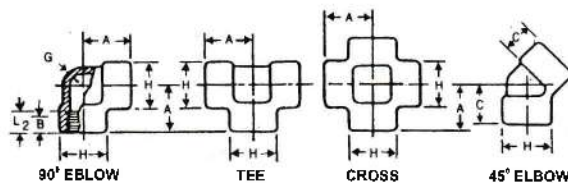
HALF-COUPLING

SOCKET-WELDING FITTING

Nom. Pipe Size	Socket Bore Dia. B ²	Bore Diameter of Fitting D ²			Socket Wall Thickness ¹ G						Body Wall G			Depth of Socket	Center to Bottom of Socket-A						Laying Lengths		Tolerance ±		
		Pressure Class Designation			Pressure Class Designation						Pressure Class Designation				90° Elbows, Tees and Crosses			45° Elbows			Cou- plings	Half Cou- plings	A	E	F
		3000	6000	9000	3000 lb	6000 lb	9000 lb	3000 lb	6000 lb	9000 lb	Pressure Class Designation														
											3000	6000	9000		3000	6000	9000								
		lb	lb	lb	Ave.	Min.	Ave.	Min.	Ave.	Min.	Min.	Min.	Min.		Min.	lb	lb	lb	lb	lb	lb	E.B.	F		
1/8	0.430 0.420	0.299 0.239	0.189 0.126		0.125	0.125	0.156	0.135			0.095	0.124		0.38	0.44	0.44		0.31	0.31		0.25	0.62	0.03	0.06	0.03
1/4	0.565 0.555	0.394 0.334	0.280 0.220		0.149	0.130	0.181	0.158			0.119	0.145		0.38	0.44	0.53		0.31	0.31		0.25	0.62	0.03	0.06	0.03
3/8	0.700 0.690	0.523 0.463	0.389 0.329		0.158	0.138	0.198	0.172			0.126	0.158		0.38	0.53	0.62		0.31	0.44		0.25	0.69	0.06	0.12	0.06
1/2	0.865 0.855	0.652 0.592	0.494 0.434	0.282 0.222	0.184	0.161	0.235	0.204	0.368	0.322	0.147	0.188	0.294	0.38	0.62	0.75	1.00	0.44	0.50	0.62	0.38	0.88	0.06	0.12	0.06
3/4	1.075 1.065	0.854 0.794	0.642 0.582	0.464 0.404	0.193	0.168	0.274	0.238	0.385	0.337	0.154	0.219	0.308	0.50	0.75	0.88	1.12	0.50	0.56	0.75	0.38	0.94	0.06	0.12	0.06
1	1.340 1.330	1.079 1.019	0.845 0.785	0.629 0.569	0.224	0.196	0.312	0.273	0.448	0.392	0.179	0.250	0.358	0.50	0.88	1.06	1.25	0.56	0.69	0.81	0.50	1.12	0.08	0.16	0.08
1-1/4	1.685 1.675	1.410 1.350	1.190 1.130	0.926 0.866	0.239	0.208	0.312	0.273	0.478	0.418	0.191	0.250	0.382	0.50	1.06	1.25	1.38	0.69	0.81	0.88	0.50	1.19	0.08	0.16	0.08
1-1/2	1.925 1.915	1.640 1.580	1.368 1.308	1.130 1.070	0.250	0.218	0.351	0.307	0.500	0.438	0.200	0.281	0.400	0.50	1.25	1.50	1.50	0.81	1.00	1.00	0.50	1.25	0.08	0.16	0.08
2	2.416 2.406	2.097 2.037	1.717 1.657	1.533 1.473	0.273	0.238	0.430	0.374	0.545	0.477	0.218	0.344	0.436	0.62	1.50	1.62	2.12	1.00	1.12	1.12	0.75	1.62	0.08	0.16	0.08
2-1/2	2.921 2.906	2.529 2.409			0.345	0.302					0.276			0.62	1.62		1.12				0.75	1.69	0.10	0.20	0.10
3	3.550 3.535	3.128 3.008			0.375	0.327					0.300			0.62	2.25		1.25				0.75	1.75	0.10	0.20	0.10
4	4.560 4.545	4.086 3.966			0.421	0.368					0.337			0.75	2.62		1.62				0.75	1.88	0.10	0.20	0.10

1. Average of Socket Wall Thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.
2. Upper and lower values for each size are the respective maximum and minimum dimensions.

ALL THE ABOVE DIMENSIONS ARE IN INCHES.



THREADED FITTING

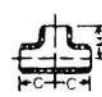
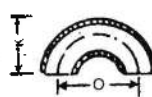
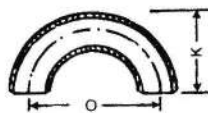
Nom. Pipe Size	Center to End Elbows, Tees, Crosses A			Center to End 45° Elbow C			Outside Diameter of Bend H			Minimum Wall Thickness G			Length of Thread Min.*	
	2000 lb	3000 lb	6000 lb	2000 lb	3000 lb	6000 lb	2000 lb	3000 lb	6000 lb	2000 lb	3000 lb	6000 lb	B	L ₂
1/8	0.81	0.81	0.97	0.69	0.69	0.75	0.88	0.88	1.00	0.125	0.125	0.250	0.25	0.2639
1/4	0.81	0.97	1.12	0.69	0.75	0.88	0.88	1.00	1.31	0.125	0.130	0.260	0.32	0.4018
3/8	0.97	1.12	1.31	0.75	0.88	1.00	1.00	1.31	1.50	0.125	0.138	0.275	0.36	0.4078
1/2	1.12	1.31	1.50	0.86	1.00	1.12	1.31	1.50	1.81	0.125	0.161	0.321	0.43	0.5337
3/4	1.31	1.50	1.75	1.00	1.12	1.31	1.50	1.81	2.19	0.125	0.170	0.336	0.50	0.5457
1	1.50	1.75	2.00	1.12	1.31	1.38	1.81	2.19	2.44	0.145	0.196	0.391	0.58	0.6828
1-1/4	1.75	2.00	2.38	1.31	1.38	1.69	2.19	2.44	2.97	0.153	0.208	0.417	0.67	0.7068
1-1/2	2.00	2.38	3.00	1.38	1.69	1.72	2.44	2.97	3.31	0.158	0.219	0.436	0.70	0.7235
2	2.38	2.50	3.25	1.69	1.72	2.06	2.97	3.31	4.00	0.168	0.281	0.476	0.75	0.7565
2-1/2	3.00	3.25	3.75	2.06	2.06	2.50	3.62	4.00	4.75	0.221	0.301	0.602	0.93	1.138
3	3.38	3.75	4.19	2.50	2.50	3.12	4.31	4.75	5.75	0.236	0.348	0.655	1.02	1.200
4	4.19	4.50	4.50	3.12	3.12	3.12	5.75	6.00	6.00	0.258	0.440	0.735	1.09	1.300

Dimension B is minimum length of perfect thread. The length of useful thread (B plus threads with full formed roots and flat crests) shall not be less than L₂ (effective length of external thread) required by American National Standard for Pipe Threads (ANSI B2.1) All the above dimensions are in Inches.



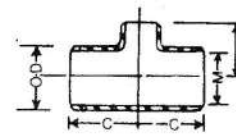
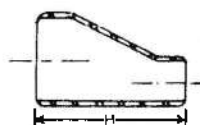
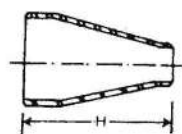
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STEAM & MINING INDUSTRIES



BUTT-WELDING FITTINGS

NOMINAL PIPE SIZE		OUT SIDE DIA		90° ELBOWS				45° ELBOWS		RETURN BENDS								EQUAL- TEES		CAPS			
				Centre to Face "A"						Centre to Face "B"		Centre to Centre "O"				Back to Face "K"				RUN/ OUTLET C/M		End to Face "E"	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm				
½	15	0.840	21.34	1 ½	38.1			5/8	15.9									1	25.4				
¾	20	1.05	26.67	1 ⅞	28.6			7/16	11.1									1 ⅞	28.6				
1	25	1.315	33.4	1 ½	38.1	1	25.4	7/8	22.2	3	76.2			2 3/16	55.6			1 ½	38.1	1 ½	38.1		
1 ¼	32	42.16	1.660	1 7/8	47.6	1 ¼	31.78	1	25.4	3 ¾	95.2			2 ¾	69.8			1 7/8	47.6	1 ½	38.1		
1 ½	40	1.9	48.26	2 ¼	57.1	1 ½	38.1	1 ⅞	28.6	4 ½	114.3	3	76.2	3 ¼	82.5	2 7/8	61.9	2 ¼	57.1	1 ½	38.1		
2	50	2.375	60.32	3	76.2	2	50.8	1 3/8	34.9	6	152	4	101.6	4 3/16	106.4	3 3/16	81	2 ½	63.5	1 ½	38.1		
2 ½	65	2.875	73.02	3 ¾	95.2	2 ½	63.5	1 ¾	44.4	7 ½	190	5	127	5 3/16	132	3 15/16	100	3	76.2	1 ½	38.1		
3	80	3.5	88.9	4 ½	114.3	3	76.2	2	50.8	9	229	6	152	6 ¼	159	4 ¾	121	3 3/8	85.7	2	50.8		
3 ½	90	4.000	101.60	5 ¼	133	3 ½	88.9	2 ¼	57.1	10 ½	267	7	178	7 ¼	184	5 ½	140	3 ¾	95.2	2 ½	63.5		
4	100	4.5	114.30	6	152	4	101.6	2 ½	63.5	12	305	8	203	8 ¼	209	6 ¼	159	4 ⅞	105	2 ½	63.5		
5	125	5.563	141.30	7 ½	190.00	5	127	3 ⅞	79.4	15	381	10	254	10 5/16	262	7 ¾	197	4 7/8	124	3	76.2		
6	150	6.625	168.27	9	229	6	152.4	3 ¾	95.2	18	457	12	305	12 5/16	313	9 5/16	236	5 5/8	143	3 ½	88.9		
8	200	8.625	219.07	12	304.8	8	203.2	5	127.0	24	610.0	16	406	16 5/16	414.0	12 5/16	313.0	7	178.0	4	101.6		
10	250	10.750	273.05	15	381.0	10	254.00	6 ¼	159.0	DIMENSIONS ILLUSTRATED ABOVE CONFORMS TO : AMERICAN STANDARDS ANSI B. 16.9 & ANSI B 16.28 BRITISH STANDARDS BSS 1640 INDIAN STANDARDS IS 4370								8 ½	216.0	5	127.0		
12	300	12.75	323.85	18	457.0	12	305.00	7 ½	190.0									10	254.0	6	152.0		
14	350	14.00	355.60	21	533.0	14	356.00	8 ¾	222.0									11	279.0	6 ½	165.00		
16	400	16.000	406.40	24	610.0	16	406.00	10	254.0									12	305.0	7	178.0		
18	450	18.000	457.20	27	686.0	18	457.00	11 ¼	286.0									13 ½	343.0	8	203.0		
20	500	20.000	508.00	30	762.0	20	508.00	12 ½	317.0									15	381.0	9	229.0		
22	550	22.000	558.80	33	838.0			13 ¾	349.0														
24	600	24.000	609.60	36	914.0	24	610.00	15	381.0									17	482.0	10 ½	267.0		



REDUCERS CONCENTRIC AND ECCENTRIC													
NOMINAL PIPE SIZE												Length H	
Large End		Small End											
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
3/4	20	1/2	15									1 1/2	38.1
1	25	3/4	20	1/2	15							2	50.8
1 1/4	32	1	25	3/4	20	1/2	15					2	50.8
1 1/2	40	1 1/4	32	1	25	3/4	20	1/2	15			2 1/2	63.5
2	50	1 1/2	40	1 1/4	32	1	25	3/4	20			3	76.2
2 1/2	65	2	50	1 1/2	40	1 1/4	32	1	25			3 1/2	88.9
3	80	2 1/2	65	2	50	1 1/2	40	1 1/4	32			3 1/2	88.9
3 1/2	90	3	80	2 1/2	65	2	50	1 1/2	40	1 1/4	32	4	101.6
4	100	3 1/2	90	3	80	2 1/2	65	2	50	1 1/2	40	4	101.6
5	125	4	100	3 1/2	90	3	80	2 1/2	65	2	50	5	127
6	150	5	125	4	100	3 1/2	90	3	80	2 1/2	65	5 1/2	140
8	200	6	150	5	125	4	100	3 1/2	90	3	80	6	152
10	250	8	200	6	150	5	125	4	100			7	178
12	300	10	250	8	200	6	150	5	125			8	203
14	350	12	300	10	250	8	200	6	150			13	330
16	400	14	350	12	300	10	250	8	200			14	356
18	450	16	400	14	350	12	300					15	381
20	500	18	450	16	400	14	350					20	508
24	600	20	500	18	450	16	400					20	508

REDUCING TEES							
NOMINAL PIPE SIZE				Centre to End			
Run		Branch		of Run C		of Branch "M"	
in	mm	in	mm	in	mm	in	mm
1	25	3/4	20	1 1/2	38.1	1 1/2	38.1
		1/2	15	1 1/2	38.1	1 1/2	38.1
		1	25	1 7/8	47.6	1 7/8	47.6
1 1/4	32	3/4	20	1 7/8	47.6	1 7/8	47.6
		1 1/4	32	2 1/4	57.1	2 1/4	57.1
1 1/2	40	1	25	2 1/4	57.1	2 1/4	57.1
		3/4	20	2 1/4	57.1	2 1/4	57.1
		1 1/2	40	2 1/2	63.5	2 3/8	60.3
2	50	1	25	2 1/2	63.5	2	50.8
		2	50	3	76.2	2 3/4	66.8
2 1/2	65	1 1/2	40	3	76.2	2 5/8	66.7
		2 1/2	65	3 3/8	85.7	3 1/4	82.5
3	80	2	50	3 3/8	85.7	3	76.2
		1 1/2	40	3 3/8	85.7	2 7/8	73.0
		3	80	4 1/8	104.8	3 7/8	98.4
4	100	2 1/2	65	4 1/8	104.8	3 3/4	95.2
		2	50	4 1/8	104.8	3 1/2	88.9
		4	100	4 7/8	124.0	4 5/8	117.5
5	125	3	80	4 7/8	124.0	4 3/8	111.1
		5	125	5 5/8	143.0	5 3/8	136.5
6	150	4	100	5 5/8	143.0	5 1/8	130.1
		3	80	5 5/8	143.0	4 7/8	124.8
		6	150	7	178	6 5/8	168.3
8	200	5	125	7	178	6 3/8	162.0
		4	100	7	178	6 1/8	156.0

Weight of Steel Valves



	Size (mm)	CI 150	CI 300	CI 600	CI 900	CI 1500
GATE VALVE	40	16	24	—	—	—
	50	18	26	35	95	95
	65	28	44	55	125	128
	80	33	48	72	128	181
	100	48	73	122	192	320
	125	70	124	—	—	—
	150	85	138	244	378	627
	200	128	226	444	635	1000
	250	213	350	700	900	1994
	300	302	550	990	1550	3200
	350	440	730	1300	2067	4000
	400	560	1035	1610	3070	5000
	450	700	1235	2020	3930	7500
	500	875	1715	2315	5120	9000
	550	1030	2045	3075	6700	—
	600	1150	2550	3810	7800	11000
	650	1665	3000	5260	—	—
	700	1980	3670	5960	—	—
	750	2510	5265	6700	—	—
	800	3050	4850	8312	—	—
	850	3450	—	—	—	—
	900	3780	5900	10125	—	—
	950	4200	—	—	—	—
	1000	5040	8100	14300	—	—
	1050	5970	9750	16460	—	—
	1200	6500	13050	22900	—	—
GLOBE VALVE	40	16	26	—	—	—
	50	22	27	40	87	87
	65	30	40	56	130	130
	80	37	52	72	122	226
	100	60	80	121	182	335
	125	90	130	—	—	—
	150	110	155	250	434	540
	200	168	240	450	730	970
	250	238	340	736	1120	1520
	300	410	495	960	1630	2200
	350	450	650	1115	2000	2700
	400	636	850	1400	2650	3580
	450	1150	1600	—	—	—
	500	1650	2100	—	—	—
	600	2200	3150	—	—	—
CHECK VALVE	40	11	15	—	—	—
	50	15	21	28	69	69
	65	21	30	38	93	93
	80	27	39	52	85	120
	100	41	59	87	141	235
	125	69	115	—	—	—
	150	70	121	205	310	540
	200	124	190	348	500	900
	250	200	290	600	772	1275
	300	307	446	780	1080	1870
	350	415	610	892	1380	2560
	400	555	774	1200	1810	3260
	450	730	1000	1560	2400	4080
	500	835	1260	2000	3500	5950
	550	1126	1580	3050	—	—
	600	1300	1650	3100	4700	8000
	650	2300	2800	3800	5100	—
	700	2500	3000	4600	5750	—
	750	2600	3400	5500	6510	—
	800	2800	3700	—	—	—
	900	3200	4300	7800	—	—
	1000	4100	5800	—	—	—
	1050	4400	6950	—	—	—
	1200	5250	8100	—	—	—

(Wt. in Kgs. are approx.)



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STEAM & MINING INDUSTRIES

Item	Ball Valve Screwed 3 Pcs. - Design		Ball Valve Flanged 3 Pcs. - Design		Butterfly Valve Wafer Type	Butterfly Valve Flanged Type	Plug Valve Screwed	Plug Valve Flanged
	reduced bore	Full bore	reduced bore	Full bore				
15	1.20	1.5	2.0	2.4	—	—	2.8	3.8
20	1.50	2.2	2.4	3.2	—	—	2.8	4.5
25	2.30	2.8	4.0	4.0	—	—	3.8	5.5
32	2.90	4.0	5.0	5.4	—	—	4.5	6.8
40	4.50	4.7	7.6	7.5	—	—	7.3	10.0
50	5.00	5.2	9.5	10.0	3.6	6.0	10.5	15.5
65	—	—	10	22	4.3	7.4	—	20.0
80	—	—	20	24	4.8	8.0	—	27.0
100	—	—	35	35	7.0	13.0	—	51.5
125	—	—	—	—	7.8	13.8	—	61.0
150	—	—	44	60	9.8	18.0	—	—
200	—	—	110	120	16.6	121	—	—
250	—	—	200	320	23.6	148	—	—
300	—	—	300	530	42.0	182	—	—
350	—	—	—	—	—	254	—	—
400	—	—	—	—	—	303	—	—
450	—	—	—	—	—	363	—	—
500	—	—	—	—	—	495	—	—
550	—	—	—	—	—	550	—	—
600	—	—	—	—	—	638	—	—
650	—	—	—	—	—	737	—	—
700	—	—	—	—	—	700	—	—
750	—	—	—	—	—	1010	—	—
800	—	—	—	—	—	1200	—	—
850	—	—	—	—	—	1340	—	—
900	—	—	—	—	—	1440	—	—
950	—	—	—	—	—	1570	—	—
1000	—	—	—	—	—	1850	—	—
1100	—	—	—	—	—	2160	—	—
1200	—	—	—	—	—	2530	—	—
1350	—	—	—	—	—	2970	—	—
1500	—	—	—	—	—	3300	—	—
1600	—	—	—	—	—	3740	—	—

(Wt. in Kgs. are approx.)

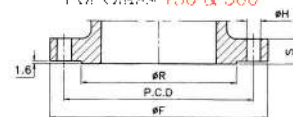


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STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

For Class 150 & 300



Class 150 Steel Flange Dimensions

Normal Size	ØF	PCD	ØR	S	ØH	N	STUD
mm	mm	mm	mm	mm	mm	No.	Size (in)
15	89	60.5	35	11.1	16	4	1/2
20	98	70.0	43	12.7(11.1)	16	4	1/2
25	108	79.2	51	14.3(11.1)	16	4	1/2
32	117	89.0	64	15.9(12.7)	16	4	1/2
40	127	98.5	73	17.5(14.3)	16	4	1/2
50	152	120.5	92	19.1(15.9)	19	4	5/8
65	178	139.5	105	22.3(17.5)	19	4	5/8
80	190	152.5	127	23.9(19.1)	19	4	5/8
100	229	190.5	157	23.9	19	8	5/8
125	254	216.0	186	23.9	22	8	3/4
150	279	241.5	216	25.4	22	8	3/4
200	343	298.5	270	28.6	22	8	3/4
250	406	362.0	324	30.2	25	12	7/8
300	483	432.0	381	31.8	25	12	7/8
350	533	476.0	413	35.0	29	12	1
400	597	539.5	470	36.6	29	16	1
450	635	578.0	533	39.7	32	16	1 1/8
500	698	635.0	584	42.9	32	20	1 1/8
600	813	749.5	692	47.7	35	20	1 1/4

Class 300 Steel Flange Dimensions

DIMENSION IN () ARE FOR VALVE FLANGES ONLY

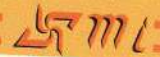
Normal Size	ØF	PCD	ØR	S	ØH	N	STUD
mm	mm	mm	mm	mm	mm	No.	Size (in)
15	95	66.5	35	14.3	16	4	1/2
20	117	82.5	43	15.9	19	4	5/8
25	124	89.0	51	17.5	19	4	5/8
32	133	98.5	64	19.1	19	4	5/8
40	156	114.5	73	20.7	22	4	3/4
50	165	127.0	92	22.3	19	8	5/8
65	190	149.0	105	25.4	22	8	3/4
80	210	168.0	127	28.6	22	8	3/4
100	254	200.0	157	31.8	22	8	3/4
125	279	235.0	186	35.0	22	8	3/4
150	318	270.0	216	36.6	22	12	3/4
200	381	330.0	270	41.3	25	12	7/8
250	444	387.5	324	47.7	29	16	1
300	521	451.0	381	50.8	32	16	1 1/8
350	584	514.5	413	54.0	32	20	1 1/8
400	648	571.5	470	57.2	35	20	1 1/4
450	711	628.5	533	60.4	35	24	1 1/4
500	775	686.0	584	63.5	35	24	1 1/4
600	914	813.0	692	69.9	41	24	1 1/2



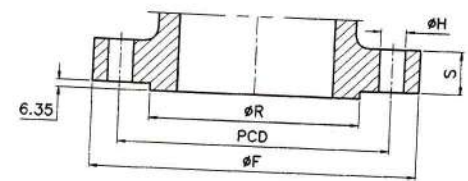
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STEAM & MINING INDUSTRIES

ANSI B 16.5 Flange



For Class 600 & 900



Class 600 Steel Flange Dimensions

Normal Size	ϕF	PCD	ϕR	S	ϕH	N	STUD
mm	mm	mm	mm	mm	mm	No.	Size (in)
15	95	66.5	35	14.3	16	4	1/2
20	117	82.5	43	15.9	19	4	5/8
25	124	89.0	51	17.5	19	4	5/8
32	133	98.5	64	20.7	19	4	5/8
40	156	114.5	73	22.3	22	4	3/4
50	165	127.0	92	25.4	19	8	5/8
65	190	149.0	105	28.6	22	8	3/4
80	210	168.0	127	31.8	22	8	3/4
100	273	216.0	157	38.1	25	8	7/8
125	330	266.5	186	44.5	29	8	1
150	356	292.0	216	47.7	29	12	1
200	419	349.0	270	55.6	32	12	1 1/8
250	508	432.0	324	63.5	35	16	1 1/4
300	559	489.0	381	66.7	35	20	1 1/4
350	603	527.0	413	69.9	38	20	1 3/8
400	686	603.0	470	76.2	41	20	1 1/2
450	743	654.0	533	82.6	45	20	1 5/8
500	813	724.0	584	88.9	45	24	1 5/8
600	940	838.0	692	101.6	51	24	1 7/8

Class 900 Steel Flange Dimensions

Normal Size	ϕF	PCD	ϕR	S	ϕH	N	STUD
mm	mm	mm	mm	mm	mm	No.	Size (in)
50	216	165.0	92	38.1	25	8	7/8
65	244	190.5	105	41.2	29	8	1
80	241	190.5	127	38.1	25	8	7/8
100	292	235.0	157	44.5	32	8	1 1/8
125	349	279.5	186	50.8	35	8	1 1/4
150	381	317.5	216	55.6	32	12	1 1/8
200	470	393.7	270	63.5	38	12	1 3/8
250	546	470.0	324	69.9	38	16	1 3/8
300	610	533.5	381	79.2	38	20	1 3/8
350	641	559.0	413	85.9	41	20	1 1/2
400	705	616.0	470	88.9	45	20	1 5/8
450	787	686.0	533	101.6	51	20	1 7/8
500	857	749.5	584	108.0	54	20	2
600	1041	901.5	692	139.7	67	20	2 1/2



AN ISO 9001 : 2000 CERTIFIED COMPANY

STEAM & MINING INDUSTRIES

1, A. J. C. BOSE ROAD, KOLKATA-700 020

Manufacturing Standard For Valves

Cast Steel Valves	API-600, BS01414 BS-1865, BS-1873 ANSI B16, 34, API		
Forged Steel Valves	API-602, BS-5352	Threaded Ends	ANSI B 2.1/BS 21
Ball Valves	BS 5351	Fire Test Std.	API 607
Butterfly Valves	BS 5155, AWWA C504, API 609		
Plug Valves	BS-5158		
Valve Inspection & Test	API-598/BS-6755	SPECIAL TESTS	
Butt-welding ends	ANSI B 16.25	Radiography	ASTM Code E 446
Flanged ends	ANSI B 16.5	Magnetic Particle Inspection	ASTM E-125
Face to Face/End to End	ANSI B 16.10	Dye Penetrant test	ASTM E -165
Socket Welding Ends	ANSI B 16.11/ IS 4712	Standard Marking System for valves	MSS SP-25
Pressure-Temperature rating	ANSI B 16.34	Standard finishes for contracts faces	MSS SP-6

Approval with Consultants & Inspection Agencies

CONSULTANTS

Mecon Limited
 CEIL
 PDIL
 Dalal Consultants & Engineers Ltd.
 M N Dastoor & Co.
 DCL
 TRF
 Avant Grade
 FEDO
 Firecon
 Chemtex Engineering (I) Ltd.

INSPECTION AUTHORITIES

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