



Flap Valve & Penstock or Sluice Gate

Flap Valve (Circular) - Model 2000C
Flap Valve (Square) - Model 2000S
Penstock or Sluice Gate - Model 2500
ASME B 16.34 / ASME Sec. VIII Div. 1
Size - 4" to 160" (100mm to 4000mm)
Rating - Class 150 to Class 2500
Fabricated Design
Cast Steel Design

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Flap Valve - Model 2000

Sluice Gate / Penstock - Model 2500

Company Overview

“INVACO” (Industrial Valve Company) founded and promoted by the technocrats having experience of 18 years in National and International valve industry. INVACO PRIVATE LIMITED (Industrial Valve Company) is registered experience company in Design, Development, Fabrication & Manufacturing of Industrial Valves. Our mission is to produce high quality and reliable Valves to our national & international clients / customers. Our proactive approach to technical issues enables to understand and implement cost-effective solutions to our valuable customers.

“INVACO” (Industrial Valve Company) committed to excellence by manufacturing top quality valves to exceed customer’s needs with low cost, on-time delivery & providing finest service in industry. “INVACO” manufacture Ball valves (Floating & Trunnion Mounted), Butterfly Valves (Damper, Sleeved, Double offset & Triple Offset), Gate Valves, Globe Valves , Check Valves, Strainers, Flap Valves, Penstock / Sluice Gate, Dismantling Joints, Flange Adaptor & Flange Couplings, for Oil & Gas, Petrochemicals, Refineries, Power Plants, Water Treatment Plants, Chemical, Paper & Pulp, Sugar, Steel, Pharma, Pipeline Transmission and other process industries.

“INVACO” (Industrial Valve Company) is specialized in design, manufacturing & testing of CAST & Fabricated Steel Flap Valve, Penstock / Sluice Gate. Flap Valves & Penstock / Sluice Gate are designed as per ASME B16.34, ASME Sec VIII Div. 1, ASME B31.1, ASME B31.3 and follows ISO 9001:2015 Quality Management Systems. INVACO, manufacture Strainers from 4” to 160” (100mm to 4000mm) with pressure range from Class 150 to Class 2500 and equivalent EN pressure ratings. Strainers manufactured from materials like CI, DI, Carbon Steel, Stainless Steel, Duplex, Super Duplex, Aluminum Bronze, Inconel, Monel, Hast Alloys, and other special materials.



INVACO (Industrial Valve Company) aims to produced a zero defect valves for long life and reliable services. Making continual improvements aims towards to minimize the Total Ownership Cost for valued customers.

This catalog provides basic information of Flap Valve & Penstock / Sluice Gate. Every effort has been made to maintain technical accuracies however INVACO has reserve rights to make any change in design and materials without prior notice.

Manufacturing Range for Flap Valve & Penstock

Type	ASME CLASS / Size - in (mm)	
	150	Other Classes Available on Request
Flap Valve	4” - 160” (100 - 4000)	
Penstock / Sluice Gate	6” - 160” (150 - 4000)	



Quality Policy

At “INVACO”, we established this comprehensive Quality Management System to implement a strategy of continual improvement and compliance with the requirements of the ISO 9001:2008 Quality Assurance standard and other industrial valves standards by:

Customer Focused:

- Make commitments we fully understand and believe we can meet and deliver.
- Meet all commitments to customers on time.
- Satisfy our customer’s needs and exceed their expectations.

Performance Driven:

- Verify that our products and services meet customer requirements.
- Monitor benchmark and continuously improve our business, products, and services, organization and employee’s performance.

Entire “INVACO” stick to the spirit and intent of this policy to ensure customer satisfaction is achieved at all respects and times.



Features of Flap Valve (Model – 2000)



FLAP VALVE (CIRCULAR):- Model – 2000C
FLAP VALVE (SQUARE) :- Model – 2000S

Quality Standards:-

Design Standards	- ASME B16.34 / ASME Sec. VIII Div. 1
End to End Standards	- Maker's Standard
Flange Drilling Standards	- ASME B16.5 / ASME B 16.47 / BS EN 1092 / AWWA C 207
Marking	- MSS SP 25 / ASME B 16.34
Visual Inspection	- MSS SP 55
Material Testing	- NDE / NACE MR 01- 75 / NACE MR 01- 03 Compliance available.

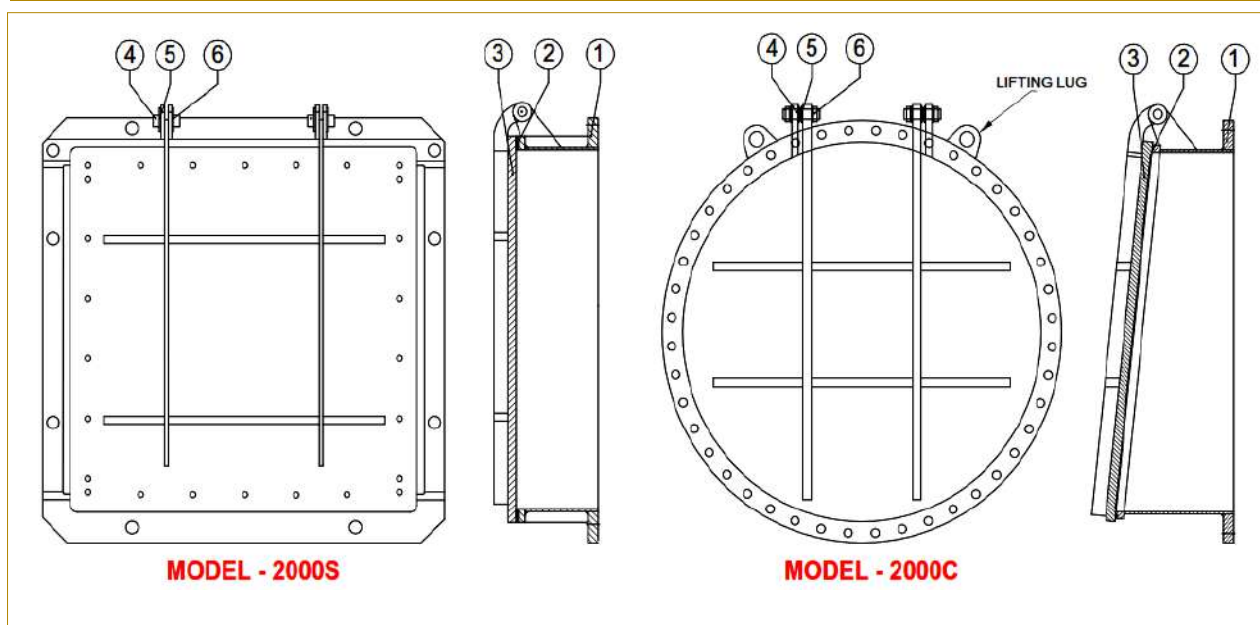
Key Features:-

- Size :- 2" to 160" (50mm to 4000mm)
- Casting / Fabricated Design
- Seating Head Pressure of 5 m.w.c.
- Self adjusting EPDM Seal Design
- Opens under very low unseating head
- Rating:- 150# to 1500# & Equiv. DIN Rating
- Circular or Square or rectangular design.
- Double Pivoting arms.
- Epoxy Coating (WRAS approved)
- Withstand slamming action

Materials - Carbon Steel, Low Temperature Carbon Steel, Stainless Steel, Duplex, Super Duplex, Incoloy, Inconel, Monel and other materials.

Applications – Flood Control, Municipal Projects, Farm Levees, Industrial Waste Line, Sewer Outlet, Water & Sewage Treatment Plants, Pump Discharge Control, Irrigation Systems, Tidal Drainage.

GA Drawing for Flap Valves (Model - 2000)



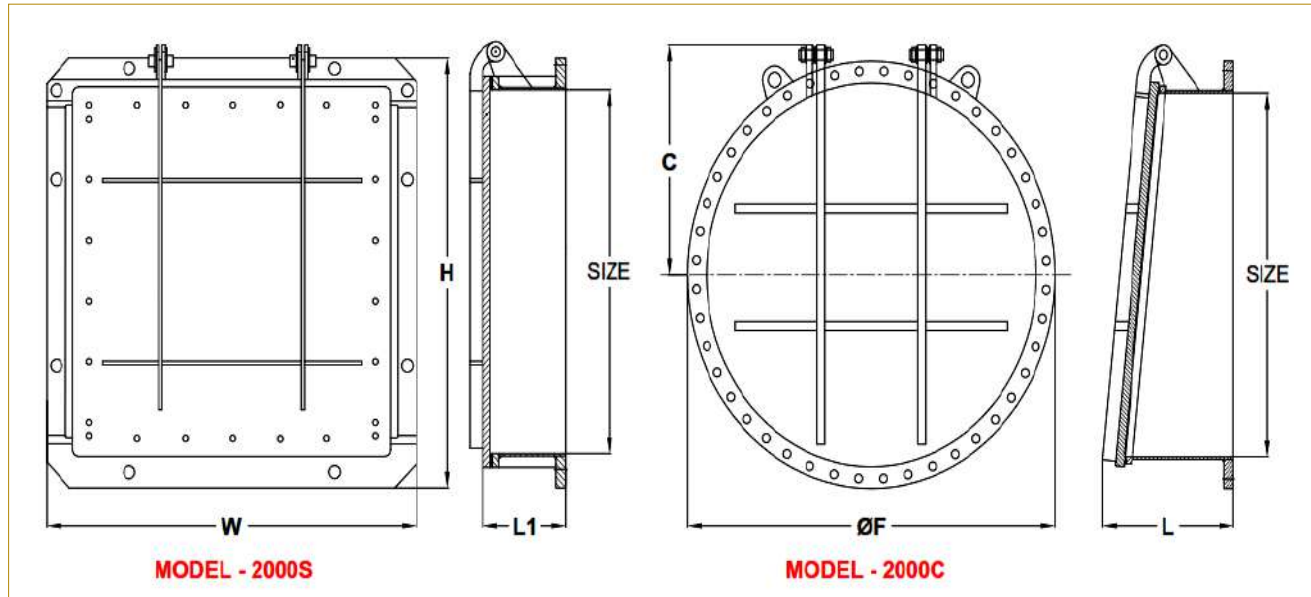
Sr. No	Parts	Sr. No	Parts
1	Body	4	Hinge Pin
2	Seat	5	Washer
3	Disc	6	Opening Pin

Material of Construction for Flap Valve (Model - 2000)

Bill of Material For Flap Valves					
Sr. No.	Part	Carbon Steel	Low Temp. Carbon Steel	Stainless Steel	Duplex
1	Body	A216 Gr WCB	A325 Gr. LCB , LCC	A351 Gr. CF8M, CF8	A890 Gr. 4A, 5A, 6A
2	Seat	EPDM /NBR / Metal			
3	Disc	A216 Gr WCB	A325 Gr. LCB , LCC	A351 Gr. CF8M, CF8	A890 Gr. 4A, 5A, 6A
4	Hinge Pin	SS 304 /316			F51, F53,F55
5	Washer	SS 304/316			F51, F53,F55
6	Opening Pin	SS 304/316			F51, F53,F55

NOTE: ** Casting & Fabricated, Customized designs available as per customer requirement.
** "INVACO" reserve rights to change MATERIALS & DESIGN anytime without prior notice.

Dimensions for Flap Valve (Model - 2000)

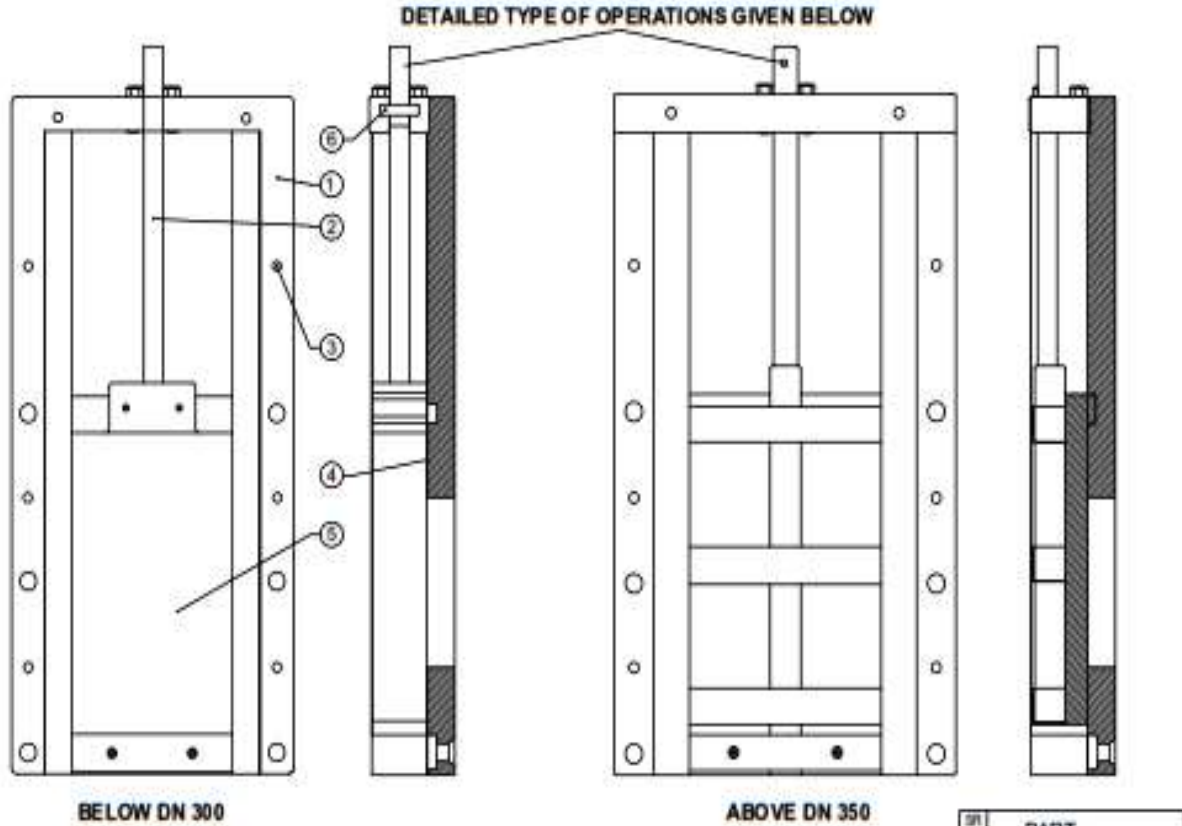


Size		150#					
		L	ØF	C	L1	W	H
in	mm	mm	mm	mm	mm	mm	mm
4	100	102	229	151	97	400	450
6	150	102	280	172	97	450	500
8	200	130	343	251	118	500	550
10	250	170	407	318	145	550	600
12	300	204	483	338	145	600	650
14	350	270	533	387	178	650	700
16	400	340	597	403	178	700	750
18	450	340	635	436	205	750	800
20	500	380	699	497	223	800	850
24	600	380	813	532	223	900	950
26	650	400	870	576	223	950	1000
28	700	400	925	601	245	1000	1050
30	750	440	985	653	245	1050	1100
32	800	480	1060	692	275	1100	1150
34	850	500	1110	722	275	1150	1200
36	900	500	1170	761	304	1200	1250
40	1000	600	1290	839	304	1300	1350
42	1050	600	1345	875	304	1350	1400
44	1100	650	1405	914	346	1400	1450
48	1200	650	1510	982	346	1500	1550

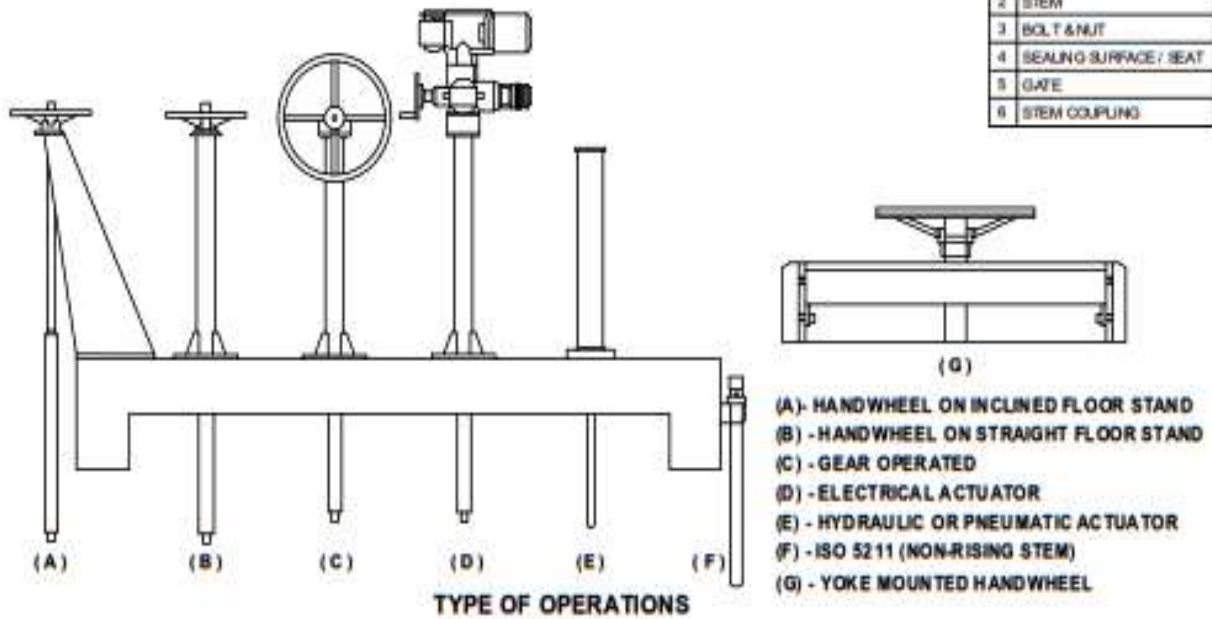
Size		150#					
		L	ØF	C	L1	W	H
in	mm	mm	mm	mm	mm	mm	mm
52	1300	650	1625	1056	371	1600	1650
56	1400	650	1745	1134	371	1700	1750
60	1500	700	1855	1146	391	1800	1850
64	1600	700	1915	1168	391	1900	1950
66	1650	700	2032	1240	436	1950	2000
72	1800	750	2197	1341	436	2100	2175
78	1950	750	2362	1417	436	2250	2325
80	2000	750	2325	1395	483	2300	2375
84	2100	800	2534	1520	483	2400	2475
88	2200	800	2550	1531	483	2500	2575
90	2250	800	2705	1623	538	2550	2625
96	2400	800	2877	1727	538	2700	2775
102	2550	850	3048	1829	593	2850	2925
104	2600	850	2960	1776	593	2900	2975
108	2700	850	3219	1932	593	3000	3075
112	2800	900	3180	1908	593	3100	3175
120	3000	900	3562	2137	658	3300	3375
136	3400	950	3630	2178	685	3700	3775
144	3600	950	4248	2549	723	3900	3975
160	4000	950	4245	2547	745	4300	4375

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Feature for Penstock / Sluice Gate (Model - 2500)



SR NO	PART
1	BODY
2	STEM
3	BOLT & NUT
4	SEALING SURFACE / SEAT
5	GATE
6	STEM COUPLING



Quality Standards

Design Standards	- DIN 19569 / BS 7775 / AWWAC561 / ASME B16.34 / ASME Sec. VIII Div. 1
End to End Standards	- Maker's Standard
Flange Drilling Standards	- Maker's Standard or Customer Requirement
Marking	- MSS SP 25 / ASME B 16.34
Visual Inspection	- MSS SP 55
Material Testing	- NDE / NACE MR 01- 75 / NACE MR 01- 03 Compliance available.

Key Features:-

- Size :- 6" to 160" (150mm to 4000mm)
- Rating:- 150# (Higher Pressure on request)
- Fabricated & Cast Design
- Circular or Square or rectangular design.
- Seating Head Pressure of 5 m.w.c.
- Unidirectional or Bidirectional options
- 3 or 4 side Seal Design
- Epoxy Coating (WRAS approved)
- Design to implant in the wall of the channel.
- Suitable for clean liquids or loaded with solid.

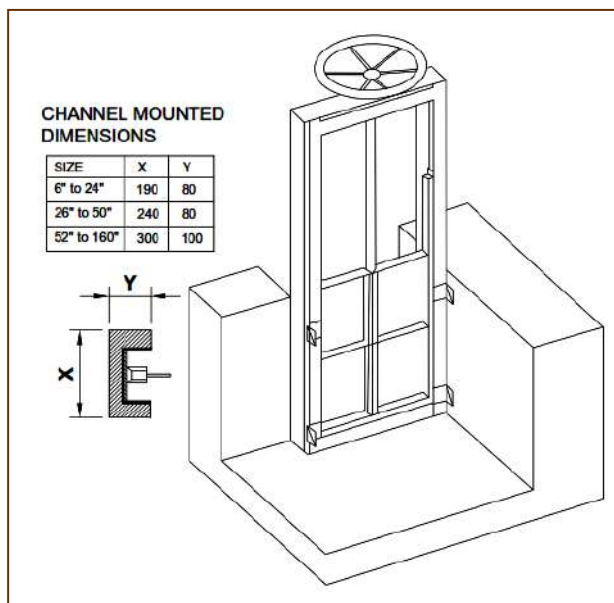
Materials - Carbon Steel, Low Temperature Carbon Steel, Stainless Steel, Duplex, Super Duplex, Incoloy, Inconel, Monel and other materials.

Applications – Flood Control, Municipal Projects, Farm Levees, Industrial Waste Line, Sewer Outlet, Water & Sewage Treatment Plants, Pump Discharge Control, Irrigation Systems, Tidal Drainage.

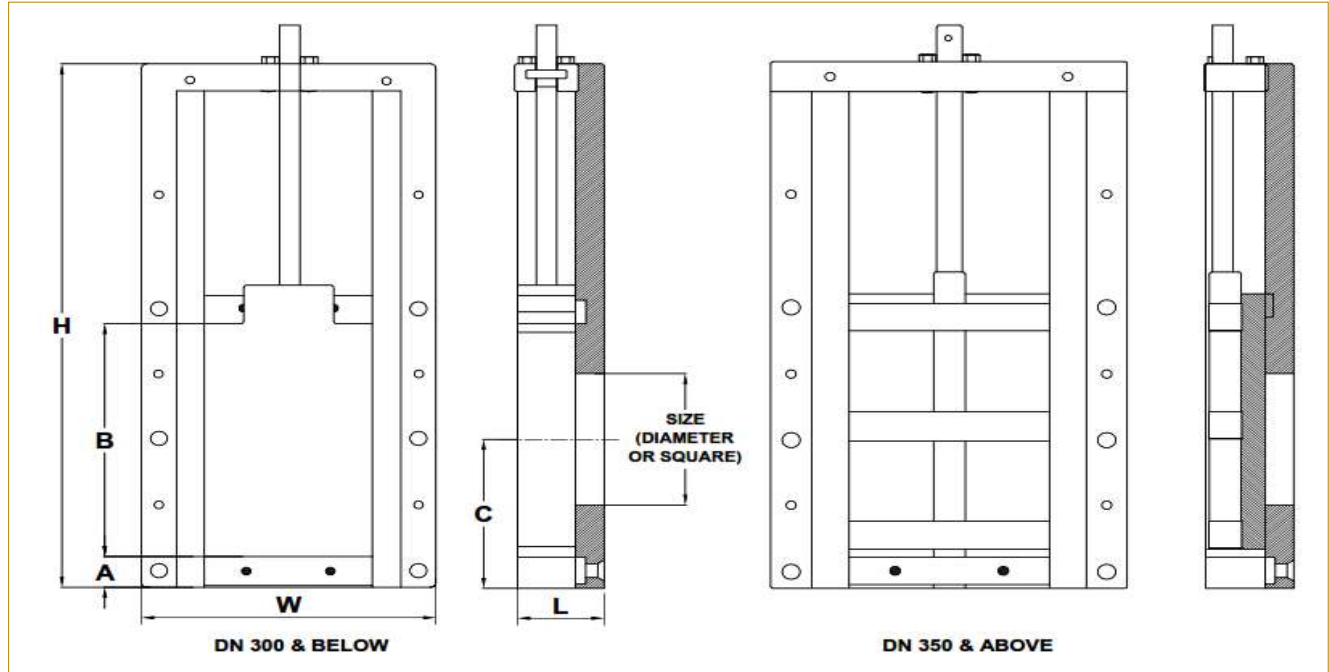
Material of Construction for Penstock / Sluice Gate (Model - 2500)

Bill of Material For Penstock / Sluice Gate					
Sr. No.	Part	Carbon Steel	Low Temp. Carbon Steel	Stainless Steel	Duplex
1	Body	A216 Gr WCB	A325 Gr. LCB , LCC	A351 Gr. CF8M, CF8	A890 Gr. 4A, 5A, 6A
2	Stem	SS 304 / SS 316			F51,F53,F55
3	Bolt & Nut	SS (304/316)			Duplex
4	Seat	EPDM / NBR / PTFE			
5	Gate	A216 Gr WCB	A325 Gr. LCB , LCC	A351 Gr. CF8M, CF8	A890 Gr. 4A, 5A, 6A
6	Coupling	Bronze / Stainless Steel			

NOTE: ** Casting & Fabricated, Customized designs available as per customer requirement.
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Dimensions for Penstock / Sluice Gate (Model - 2500)



Size		150#					
		B	W	H	C	L	A
in	mm	mm	mm	mm	mm	mm	mm
6	150	150	350	625	175	115	100
8	200	200	400	735	200	115	100
10	250	250	450	855	225	115	100
12	300	300	500	870	250	115	100
14	350	350	550	975	275	115	100
16	400	400	600	1085	300	124	100
18	450	450	650	1195	325	124	100
20	500	500	700	1280	350	124	100
24	600	600	800	1475	400	154	100
28	700	700	900	1685	450	154	100
32	800	800	1000	1875	500	154	100
36	900	900	1100	2095	550	187	100
40	1000	1000	1200	2260	600	187	100
44	1100	1100	1300	2465	650	187	100
48	1200	1200	1400	2685	700	187	100
52	1300	1300	1500	2895	750	208	100
56	1400	1400	1600	3125	825	208	125
60	1500	1500	1800	3325	875	208	125

Size		150#					
		B	W	H	C	L	A
in	mm	mm	mm	mm	mm	mm	mm
64	1600	1600	2000	3535	925	208	125
68	1700	1700	2100	3725	975	208	125
72	1800	1800	2200	3915	1025	256	125
76	1900	1900	2300	4115	1075	256	125
80	2000	2000	2400	4325	1125	256	125
84	2100	2100	2500	4575	1200	256	150
88	2200	2200	2600	4775	1250	256	150
92	2300	2300	2700	4985	1300	295	150
96	2400	2400	2800	5165	1350	295	150
100	2500	2500	2900	5365	1400	295	150
104	2600	2600	3000	5585	1450	295	150
108	2700	2700	3100	5785	1500	295	150
120	3000	3000	3400	6485	1700	318	200
128	3200	3200	3600	6885	1800	318	200
136	3400	3400	3800	7325	1900	318	200
144	3600	3600	4000	7725	2000	356	200
160	4000	4000	4400	8525	2200	356	200
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Flap Valve & Penstock or Sluice Gate



Flap Valve - Model 2000
Sluice Gate - Model 2500

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Your Local INVACO Representative -

We are 70 Km away from Mumbai International Airport.