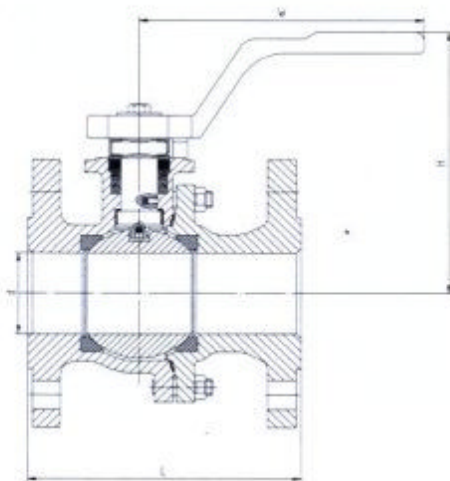


ANSI-VALVES

Ball/Gate/Globe/Check/Strainer
Class 150 - 2500

Cast steel split body floating ball valve

NPS 1/2-1 1/4



Form of major parts materials

N0.	Accessory Name	Material	
1	Body	WCB	CF8M/CF8/CF3M/CF3
2	Bonnet	WCB	CF8M/CF8/CF3M/CF3
3	Ball	CF3M/304	CF8M/316
4	Seat	PTFE+25%glass	
5	Gasket	PTFE/Graphite	
6	Stem	316/316L/17-4PH	
7	Packing	PTFE/Graphite	
8	Bolt	B7	B8M/B8
9	Nut	2H	8M
10	Hand lever	Gr.60-40-18	304

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement

Design and inspection Standards

Design:	API 6D ASME B16.34
Face to Face:	ASME B16.10
Flange:	ASME B16.5
Actuator Mounting:	ISO 5211
Fire Test:	API 607 BS 6755
Pressure Test:	API 6D API 598
Pressure-Temperature Rating:	ASME B16.34

Notes: The sizes of serial valve connecting flange and butt-welding terminal can be designed according to customer's requirement.

Dimension, Weight

Class150

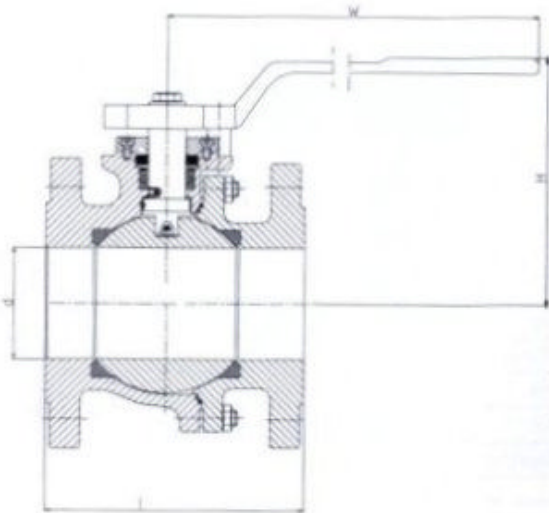
NPS (inch)	L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg) ≈
1/2	108	117	15	200	2.8
3/4	117	124	20	200	3.0
1	127	129	25	220	4.0
1-1/4	140	145	32	220	5.5

Class300

NPS (inch)	L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg) ≈
1/2	140	117	15	200	3.3
3/4	152	124	20	200	3.5
1	165	129	25	220	5.5
1-1/4	178	145	32	220	7.6

Cast steel split body floating ball valve

NPS 1 1/2-8



Form of major parts materials

NO.	Accessory Name	Material	
1	Body	WCB	CF8M/CF8/CF3M/CF3
2	Bonnet	WCB	CF8M/CF8/CF3M/CF3
3	Ball	CF3M/304	CF8M/316
4	Seat	PTFE+25%glass	
5	Gasket	PTFE/Graphite	
6	Stem	316/316L/17-4PH	
7	Packing	PTFE/Graphite	
8	Bolt	B7	B8M/B8
9	Nut	2H	8M
10	Hand lever	Gr.60-40-18	304

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement

Design and inspection Standards

Design:	API 6D ASME B16.34
Face to Face:	ASME B16.10
Flange:	ASME B16.5
Actuator Mounting:	ISO 5211
Fire Test:	API 607 BS 6755
Pressure Test:	API 6D API 598

Pressure-Temperature Rating: ASME B16.34

Notes: The sizes of serial valve connecting flange and butt-welding terminal can be designed according to customer's requirement

Dimension, Weight

Class150

NPS (inch)	L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg) ≈
1-1/2	165	155	40	270	7.0
2	178	161	50	270	9.5
2-1/2	190	173	65	270	15
3	203	205	80	360	24
4	229	227	100	360	33
6	394	251	150	*	93
8	457	346	200	*	160

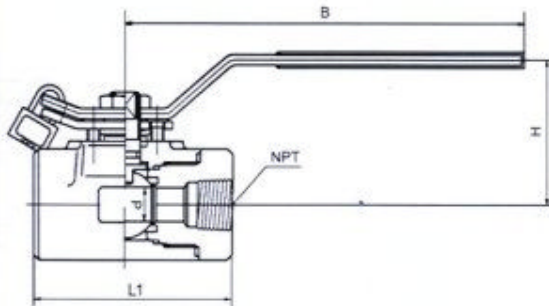
Class300

NPS (inch)	L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg) ≈
1-1/2	190	155	40	270	10.5
2	216	161	50	270	14.5
2-1/2	241	173	65	270	23.5
3	282	205	80	360	29.5
4	305	227	100	360	55.0
6	403	251	150	*	118
8	502	346	200	*	200

*Gear operator

Forged steel split-body floating ball valve

NPS 1/4-2



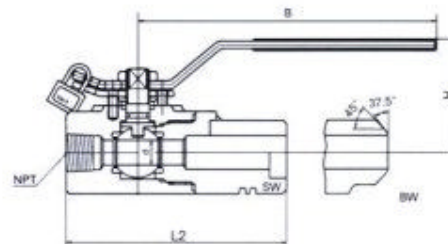
Form of major parts materials

NO.	Accessory Name	Material	
1	Body	A105/LF2	F316(L)/F304(L)
2	Bonnet	A105/LF2	F316(L)/F304(L)
3	Ball	F6/F304	F304(L)/F316(L)
4	Seat	PTFE+25%glass	
5	Stem	410/304	304(L)/316(L)
6	Packing	PTFE/Graphite	
7	Bolt	B7/B8	B8M/B8
8	Nut	2H/8	8M
9	Hand lever	Q235-A	

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement

Design and inspection Standards

Design:	BS 5351
Connection Dimension:	
Flange:	ASME B16.5
Butt weld:	ASME B16.25
Screw thread:	ASME B1.20.1
Socket weld :	ASME B16.11
Actuator Mounting:	ISO 5211
Pressure Test:	API 598
Pressure-Temperature Rating:	ASME B16.34



Dimension, Weight

Class800

NPS(inch)		L1 (mm)	L2 (mm)	B (mm)	H (mm)	d (mm)	Weight ≈ (Kg)
F.P	R.P						
1/4	/	70	121	160	60	6	1.2
3/8	1/2	70	121	160	60	9	0.9
1/2	3/4	80	121	160	60	12.5	1.3
3/4	1	95	130	160	65	17	2.2
1	1-1/4	115	136	170	85	24	3.5
1-1/4	1-1/2	125	140	230	105	37	6.5
1-1/2	2	135	148	230	105	37	6.5
2	/	155	160	280	125	49	11

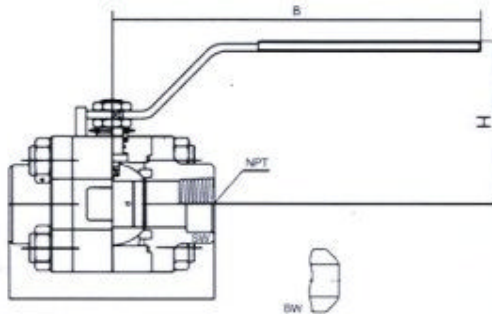
Class1500/2500

NPS(inch)	L1(mm)		L2(mm)		B(mm)		H(mm)		d(mm)		Weight ≈	
	CL1500	CL2500	CL1500	CL2500	CL1500	CL2500	CL1500	CL2500	CL1500	CL2500	CL1500	CL2500
1/4	80	/	121	/	160	/	60	/	6	6	1.2	
3/8	80	/	121	/	160	/	60	/	9	9	1.5	/
1/2	95	125	130	136	160	230	65	90	13	13	2.5	2.7
3/4	115	135	136	140	170	230	85	110	19	19	3.7	4.1
1	125	155	140	148	230	280	105	125	25	25	5.8	6.3
1-1/4	135	/	148	/	230	/	105	/	32	/	8.3	/
1-1/2	155	155	160	175	280	280	125	/	38	38	11.5	12
2	155	/	175	/	280	130	/	/	49	42	13.7	15

Forged steel three pieces body floating ball valve

NPS 1/2-2

Form of major parts materials



NO.	Accessory Name	Material	
1	Body	A105/LF2	F316(L)/F304(L)
2	Bonnet	A105/LF2	F316(L)/F304(L)
3	Ball	F6/F304	F304(L)/F316(L)
4	Seat	PTFE+25%oglass	
5	Stem	410/304	304(L)/316(L)
6	Packing	PTFE/Graphite	
7	Bolt	B7/B8	B8M/B8
8	Nut	2H/8	8M
9	Hand lever	Q235-A	

Notes:Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

- Design: BS 5351
- Connection Dimension:
- Flange ASME B16.5
- Butt weld ASME B16.25
- Screw thread ASME B1.20.1
- Socket weld ASME B16.11
- Actuator Mounting: ISO 5211
- Pressure Test: API 598
- Pressure-Temperature Rating: ASME B16.34

Dimension,Weight

Class800/1500

NPS(inch)	L (mm)	B (mm)	H (mm)	d(mm)		Weight (Kg) ≈	
				CL800	CL1500	CL800	CL1500
F.P							
1/4	92	108	51	6	6	2.5	2.5
3/8	92	108	51	9	9	2.4	2.4
1/2	92	108	51	13	13	2.3	2.5
3/4	111	146	108	18	19	3.4	3.7
1	127	178	81	23	25	5.4	5.8
1-1/4	140	178	85	28	32	6.4	6.8
1-1/2	152	200	105	35	38	11	11.5
2	152	200	105	49	49	13	13.7

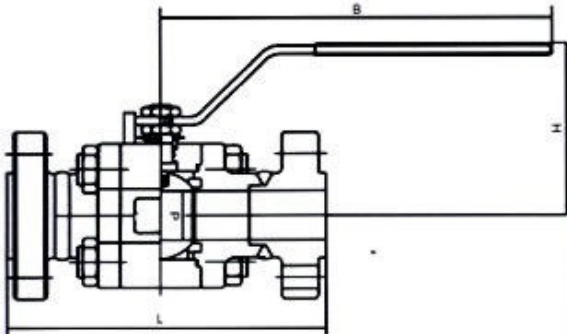
Class2500

NPS(inch)	L (mm)	B (mm)	H (mm)	d (mm)	Weight ≈ (Kg)
F.P					
1/4	/	/	/	/	/
3/8	/	/	/	/	/
1/2	110	170	95	13	2.7
3/4	125	230	110	19	4.1
1	135	230	125	25	6.3
1-1/4	/	/	/	/	/
1-1/2	160	310	200	38	12
2	/	/	/	/	/

Forged steel three pieces body flanged ball valve

NPS 1/2-2

Form of major parts materials



NO.	Accessory Name	Material	
1	Body	A105/LF2	F316(L)/F304(L)
2	Bonnet	A105/LF2	F316(L)/F304(L)
3	Ball	F6/F304	F304(L)/F316(L)
4	Seat	PTFE+25%glass	
5	Stem	410/304	304(L)/316(L)
6	Packing	PTFE/Graphite	
7	Bolt	B7/B8	B8M/B8
8	Nut	2H/8	8M
9	Hand lever	Q235-A	

Notes:Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

- Design: API 6D
- Connection Dimension:
 - Flange: ASME B16.5
 - Butt weld: ASME B16.25
- Actuator Mounting: ISO 5211
- Pressure Test: API 598
- Pressure-Temperature Rating: ASME B16.34

Dimension,Weight

Class1500

NPS(inch)	L (mm)	B (mm)	H (mm)	d (mm)	Weight (Kg)≈
F.P					
1/2	216	230	75	13	2.5
3/4	229	230	85	19	5.8
1	254	350	85	25	5.8
1-1/4	279	280	105	32	6.8
1-1/2	305	400	110	38	11.5
2	368	400	130	49	13.7

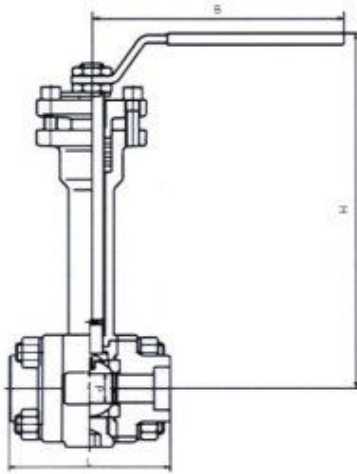
Class2500

NPS(inch)	L (mm)	B (mm)	H (mm)	d (mm)	Weight (Kg)≈
F.P					
1/2	264	280	75	13	2.7
3/4	273	280	85	19	6.3
1	308	95	95	25	6.3
1-1/4	349	350	105	32	6.8
1-1/2	384	400	110	38	12
2	451	400	130	42	15

Forged steel three pieces body low temperature ball valve

NPS 1/2-2

Form of major parts materials



NO.	Accessory Name	Material	
1	Body	LF2/LF3	F316(L)/F304(L)
2	Bonnet	LF2/LF3	F316(L)/F304(L)
3	Ball	F304	F304(L)/F316(L)
4	Seat	PTFE+25%glass	
5	Stem	304	304(L)/ 316(L)
6	Packing	PTFE/Graphite	
7	Bolt	B8	B8M/B8
8	Nut	8	8M/8
9	Hand lever	1025	

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design:	BS 5351
Connection Dimension:	
Flange	ASME B16.5
Butt weld	ASME B16.25
Screw thread	ASME B1.20.1
Socket weld	ASME B16.11
Actuator Mounting:	ISO 5211
Pressure Test:	API 598
Pressure-Temperature Rating:	ASME B16.34

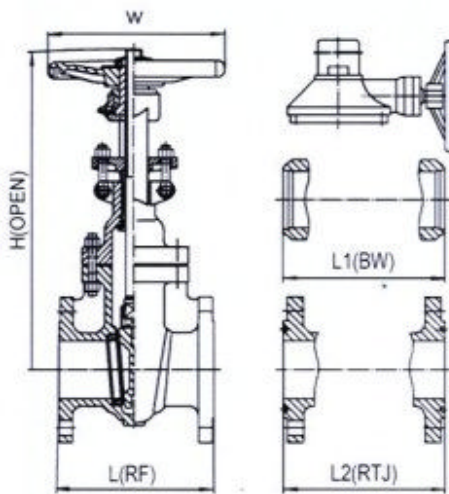
Dimension, Weight

Class800/1500

NPS(inch)	L (mm)	B (mm)	H(mm)		d(mm)		Weight (Kg) ≈	
			≥-196℃ ≥-101℃	≥-46℃	CL800	CL1500	CL800	CL1500
1/4	92	108	180	140	6	6	1.7	1.9
3/8	92	108	180	140	9	9	2.0	2.3
1/2	92	108	180	140	13	13	3.2	3.4
3/4	111	108	200	160	18	19	4.2	4.5
1	127	178	230	180	23	25	6.3	7.1
1-1/4	140	178	245	195	28	32	7.3	8.3
1-1/2	152	200	265	215	35	38	12.1	12.6
2	152	200	275	215	49	49	14.3	14.9

Cast steel gate valve

NPS 1/2-2



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
2	Bonnet	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
3	Wedge	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
4	Seat Ring	A105/LF2	F11/F22	F316/F304/F316L/F304L
5	Stem	F6	F304	F316/F304/F316L/F304L
6	Stem nut	A439 D2/B148-952A		
7	Packing	PTFE /Graphite		
8	Bolt	B7/L7	B16	B8M/B8
9	Nut	2H/4	7	8M/8
10	Hand wheel	Ductile iron or carbon steel		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: API 600 BS 1414
 Face to Face Dimension: ASME B 16.10
 Connection Dimension:
 Flange: 2" -24" ASME B16.5
 26" -36" MSS SP-44 to API 605 on request
 Butt weld: ASME B16.25
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class150

NPS (inch)	L(RF) (mm)	L1(BW) (mm)	L2(RTJ) (mm)	H (mm)	W (mm)	Weight (Kg)≈	
						RF	BW
2	178	216	191	409	200	20	17
2-1/2	190	241	203	472	200	30	26
3	203	283	216	532	250	36	29
4	229	305	241	612	250	53	46
5	254	381	267	710	300	71	66
6	267	403	279	806	300	85	77
8	292	419	305	990	350	136	116
10	330	457	343	1186	450	220	202
12	356	502	368	1405	500	323	294
14	381	572	394	1615	460*	387	350
16	406	610	419	1811	460*	553	506
18	432	660	445	1986	460*	660	575
20	457	711	470	2210	610*	810	720
24	508	813	521	2698	610*	1250	1130
28	610	914	622	3030	610*	1931	1765
30	610	914	622	3317	610*	2380	2028
32	660	965	673	3487	610*	2490	2280
36	711	1016	724	3825	760*	3600	3080

Class300

NPS (inch)	L-L1(RF-BW) (mm)	L2(RTJ) (mm)	H (mm)	W (mm)	Weight (Kg) ≈	
					RF	BW
2	216	232	400	200	30	26
2-1/2	241	257	477	250	39	34
3	283	298	543	250	55	47
4	305	321	650	300	83	68
5	381	397	770	300	92	77
6	403	419	880	350	137	118
8	419	435	1037	450	240	195
10	457	473	1275	500	333	271
12	502	518	1438	560	536	432
14	762	778	1650	460*	699	595
16	838	854	1840	460*	1010	848
18	914	930	2030	610*	1205	1025
20	991	1010	2240	610*	1720	1460
24	1143	1165	2900	610*	2800	2294
30	1397	1422	3540	760*	3786	3220

Class600

NPS (inch)	L-L1(RF-BW) (mm)	L2(RTJ) (mm)	H (mm)	W (mm)	Weight (Kg) ≈	
					RF	BW
2	292	295	474	250	41	35
2-1/2	330	333	553	250	58	50
3	356	359	593	300	88	68
4	432	435	713	350	131	104
6	559	562	970	500	253	208
8	660	664	1122	560	413	328
10	787	791	1330	720	623	496
12	838	841	1519	610*	784	637
14	889	892	1730	610*	1288	1120
16	991	994	1835	610*	1820	1448
18	1092	1095	2290	610*	2150	1828
20	1194	1200	2510	760*	2540	2201
24	1397	1407	3022	760*	4080	3360

Class900

NPS(inch)	L-L1(RF-BW) (mm)		L2(RTJ) (mm)		H (mm)		W (mm)		Weight (Kg) ≈	
									RF	BW
2	368		371		547		300		90	82
2-1/2	419		422		700		355		110	93
3	381		384		648		400		123	108
4	457		460		729		450		148	122
6	610		613		1041		560		420	359
8	737		740		1260		460*		650	566
10	838		841		1590		610*		1160	980
12	965		968		1795		610*		1700	1450
14	1029		1038		2025		760*		2300	2000
16	1130		1140		2170		760*		2750	2390

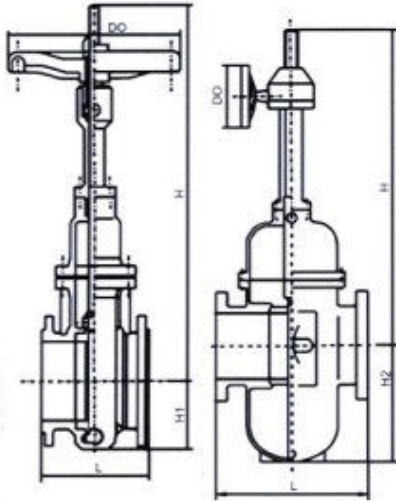
Class1500/2500

NPS(inch)	L-L1(RF-BW) (mm)		L2(RTJ) (mm)		H (mm)		W (mm)		Weight (Kg) ≈			
									RF		BW	
									Class 1500	Class 2500	Class 1500	Class 2500
2	368	451	371	454	487	563	250	350	74	130	70	126
2-1/2	419	508	422	514	572	563	300	450	131	200	126	192
3	470	578	473	584	603	582	350	450	165	245	159	238
4	546	673	549	683	700	870	500	500	248	490	241	478
6	705	914	711	927	984	1450	600*	610*	510	1600	498	1582
8	832	1022	841	1038	1370	1610	610*	610*	921	2450	910	2435
10	991	1270	1000	1292	1520	2076	610*	610*	1910	4570	1890	4556
12	1130	1422	1146	1445	1651	2281	610*	610*	3145	7150	3137	7132
14	1257	1257	1276	1276	1945	1945	760*	760*	4100	4100	4080	4080
16	1384	1384	1407	1407	2250	2250	760*	760*	6200	6200	6180	6180

Manual gear operator is recommended

Cast steel parallel slab gate valve

NPS 1/2-2



Form of major parts materials

NO.	Accessory Name	Material	
1	Body	WCB	CF8M/CF8/CF3M/CF3
2	Bonnet	WCB	CF8M/CF8/CF3M/CF3
3	Pluice Plate	WCB	CF8M/CF8/CF3M/CF3
4	Seat Ring	A105	F316/F304/F316L/F304L
5	Stem	F6a	F316/F304/F316L/F304L
6	Stem nut	A439 D2/B148-952A	
7	Packing	PTFE /Graphite	
8	Bolt	B7	B8M/B8
9	Nut	2H	8M/8
10	Hand wheel	Ductile iron or carbon steel	

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

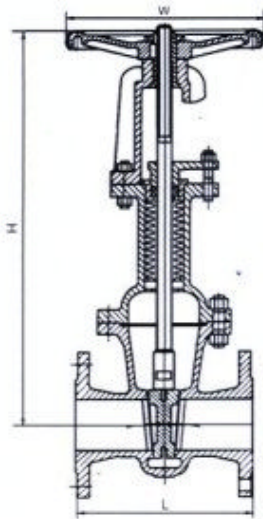
Design: API 6D
 Face to Face Dimension: ASME B 16.10
 Flanged end: ASME B16.5
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

NPS (inch)	150Lb					300Lb					600Lb				
	L	H	H1	H2	D0	L	H	H1	H2	D0	L	H	H1	H2	D0
2	178	415	80	410	250	246	415	80	140	250	250	415	80	410	250
3	203	530	98	195	300	283	530	98	195	300	310	530	98	195	300
4	229	692	110	240	350	305	692	125	240	350	350	692	125	240	350
6	267	895	150	330	350	403	895	180	330	350	450	595	180	330	400
8	292	1080	170	410	350	419	1080	200	410	350	550	1080	200	410	500
10	330	1360	210	510	400	457	1360	235	510	400	650	1360	235	510	600
12	356	1495	240	600	500	502	1495	280	600	500	750	1495	280	600	/
14	381	1700	265	685	600	762	1700	330	685	600	850	1700	330	685	/
16	406	1950	295	800	/	838	1950	370	800	/	950	1950	370	800	/
18	432	2250	325	870	/	914	2250	400	870	/	/	/	/	/	/
20	457	2465	335	955	/	991	2465	440	955	/	/	/	/	/	/

Cast steel bellows sealed gate valve

NPS 1/2-12



Form of major parts materials

NO.	Accessory Name	Material	
		1	Body
2	Bonnet	WCB	CF8M/CF8/CF3M/CF3
3	Wedge	F6a/F22	CF8M/CF8/CF3M/CF3
4	Seat Ring	A105	F316/F304/F316L/F304L
5	Stem	F6a/F22	F316/F304/F316L/F304L
6	Stem nut	ZQA19-4	
7	Packing	PTFE /Graphite	
8	Bolt	B7	B8M/B8
9	Nut	2H	8M/8
10	Hand wheel	Gr.60-40-18	
11	Bellows	F321	

Notes:Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

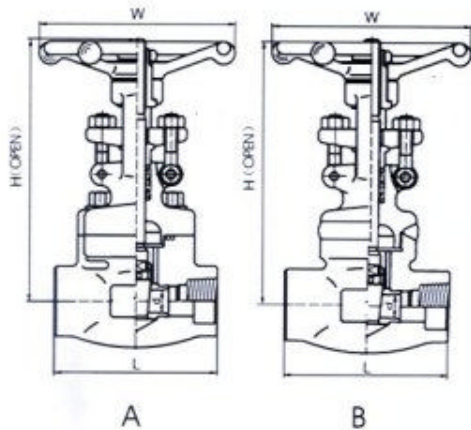
Design: API 600 API 6D
 Face to Face Dimension: ASME B 16.10
 Connection Dimension:
 Flange ASME B16.5
 Butt weld ASME B16.25
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension,Weight

Class150														
NPS(inch)	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	12
L(mm)	108	117	127	140	165	178	190	203	229	254	267	292	330	356
H(mm)	200	210	250	260	290	370	398	440	490	530	580	670	760	850
W(mm)	120	140	140	180	200	220	260	280	300	340	400	450	450	500
Weight(Kg)≈	8	9	10	15	22	30	42	55	70	100	140	180	250	350
Class300														
L(mm)	140	152	165	178	190	216	241	283	305	381	403	419	457	502
H(mm)	200	210	250	260	290	370	398	440	490	530	580	670	760	850
W(mm)	120	140	140	180	200	220	260	280	300	340	400	450	450	500
Weight(Kg)≈	9	10	12	18	25	38	53	70	88	125	175	225	310	440
Class600														
L(mm)	165	190	216	229	241	292	330	356	432	508	559	660	787	838
H(mm)	200	210	250	260	290	370	398	440	490	530	580	670	760	850
W(mm)	120	140	140	180	200	220	260	280	300	340	400	450	450	500
Weight(Kg)≈	11	13	16	24	32	50	70	90	105	165	230	300	400	570

Forged steel bolted/welded bonnet gate valve

NPS 1/4-3



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	A105	LF2	F304(L)/F316(L)
2	Bonnet	A105	LF2	F304(L)/F316(L)
3	Wedge	F6a	F304	F304(L)/F316(L)
4	Seat Ring	410	304	304(L)/316(L)
5	Stem	410	304	304(L)/316(L)
6	Stem nut	410		
7	Packing	Graphite		
8	Bolt	B7	L7	B8M/B8
9	Nut	2H	2H	8M/8
10	Hand wheel	A197		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design:	API 602
Connection Dimension:	
Flange	ASME B16.5
Butt weld	ASME B16.25
Screw thread	ASME B1.20.1
Socket weld	ASME B16.11
Pressure Test:	API 598
Pressure-Temperature Rating:	ASME B16.34

Dimension, Weight

Class800

NPS(inch)		L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg)≈	
F.P	RP					A	B
1/4	-	79	161	8	100	2.3	1.9
3/8	1/2	79	161	10.5	100	2.22	1.9
1/2	3/4	92	163	13.5	100	2.39	2.1
3/4	1	111	196	18	125	4.24	3.2
1	1-1/4	120	223	24	160	5.7	5.2
1-1/4	1-1/2	120	251	29	160	7.05	6.9
1-1/2	2	140	290	36.5	180	10.9	10.4
2	2-1/2	178	333	45	200	16.8	15.8
2-1/2	3	180	370	51	220	24	22

Class900-1500

NPS(inch)		L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg)≈	
F.P	RP					A	B
1/4	-	92	191	8	100	2.4	2.3
3/8	1/2	111	191	10.5	125	4.4	4
1/2	3/4	111	192	13.5	125	4.3	4
3/4	1	120	219	18	160	6	4.8
1	1-1/4	120	243	24	160	7.2	7.1
1-1/4	1-1/2	140	296	29	180	11.4	11
1-1/2	2	178	316	36.5	200	16	16
2	2-1/2	180	370	45	220	23	22.8

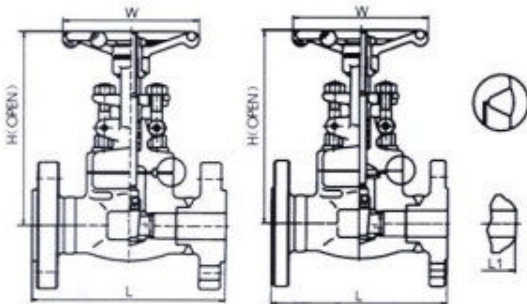
Class2500

NPS(inch)		L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg)≈	
F.P						B	
3/8		111	191	10.5	125	4.4	
1/2		120	192	13.5	125	4.3	
3/4		120	219	18	160	6	
1		120	243	24	160	7.2	
1-1/4		140	296	29	180	11.4	

Forged steel flanged gate valve

NPS 1/2-2

Form of major parts materials



NO.	Accessory Name	Material		
1	Body	A105	LF2	F304(L)/F316(L)
2	Bonnet	A105	LF2	F304(L)/F316(L)
3	Wedge	F6a	F304	F304(L)/F316(L)
4	Seat Ring	410	304	304(L)/316(L)
5	Stem	410	304	304(L)/316(L)
6	Stem nut	410		
7	Packing	Graphite		
8	Bolt	B7	L7	B8M/B8
9	Nut	2H	2H	8M/8
10	Hand wheel	A197		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: API 602 BS 5352
 Connection Dimension:
 Flange: ASME B16.5
 Butt weld: ASME B16.25
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class150/300/600

NPS (inch)	L (mm)			H (mm)		d (mm)	W (mm)	Weight (Kg)≈					
	CL 150	CL 300	CL 600	CL 150	CL 300 600			CL150		C1300		C1600	
								RF	BW	RF	BW	RF	BW
1/2	108	140	165	176	161	10	100	3.4	2.8	3.8	3.5	4.2	4.5
3/4	117	152	190	184	163	13.5	100	4.0	3.3	4.9	4.4	5.8	5.1
1	127	165	216	217	196	18	125	6.1	5.4	7.2	6.8	8.8	8.2
1-1/4	140	178	229	226	226	24	160	7.2	7.1	9.6	8.1	12.1	10.5
1-1/2	165	190	241	250	250	29	160	10.4	8.2	12.6	9.2	15.6	12.4
2	178	216	292	290	290	36.5	180	15.5	12.5	18	15.4	19.5	20.1

Class900-1500

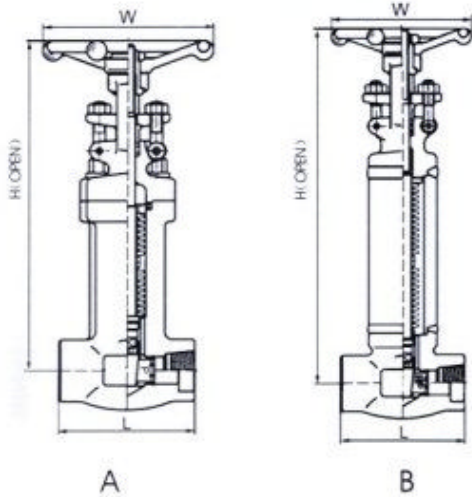
NPS (inch)	L (mm)		H (mm)	d (mm)	W (mm)	Weight (Kg)≈
	RF/BW	RTJ				
1/2	216	216	191	13.5	125	7.2
3/4	229	229	192	18	125	11.5
1	254	254	219	24	160	15.6
1-1/4	279	279	257	29	180	16.2
1-1/2	305	305	296	36.5	200	22.6
2	368	371	316	45	220	28.2

Class2500

NPS (inch)	L (mm)		H (mm)	d (mm)	W (mm)	Weight (Kg)≈
	RF/BW	RTJ				
1/2	264	264	207	13.5	125	19.5
3/4	273	273	240	13.5	160	21.5
1	308	308	258	19	160	42
1-1/4	/	/	/	/	/	/
1-1/2	384	387	355	30	200	65
2	451	454	370	36.5	240	95

Forged steel bellows sealed gate valve

NPS 1/4-2



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	A105	LF2	F304(L)/F316(L)
2	Bonnet	A105	LF2	F304(L)/F316(L)
3	Wedge	F6a	F304	F304(L)/F316(L)
4	Seat Ring	410	304	304(L)/316(L)
5	Stem	410	304	304(L)/316(L)
6	Stem nut	410		
7	Packing	Graphite		
8	Bolt	B7	L7	B8M/B8
9	Nut	2H	2H	8M/8
10	Hand wheel	A197		
11	Bellows	F321		F316L

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: API 602 / MSS-SP-117

Connection Dimension:

Flange : ASME B16.5
 Butt weld : ASME B16.25
 Screw thread: ASME B1.20.1
 Socket weld : ASME B16.11

Pressure Test: API 598

Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class800

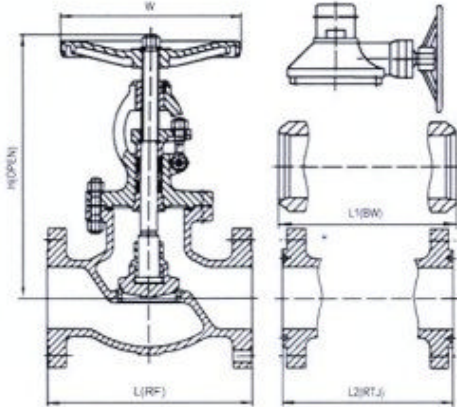
NPS(inch)		L (mm)	W (mm)	H (mm)	d (mm)	Weight (Kg)≈	
F.P	RP					A	B
/	1/4	79	100	255	7.5	3.0	2.9
1/2	3/8	79	100	255	10.5	3.0	2.9
3/4	1/2	92	100	285	13.5	3.3	3.2
1	3/4	111	125	345	18	5.9	4.6
1-1/4	1	120	160	445	24	8.7	7.2
1-1/2	1-1/4	120	160	545	29	10.2	8.9
2	1-1/2	140	180	594	36.5	16.2	15.5

Class1500

NPS(inch)		L (mm)	W (mm)	H (mm)	d (mm)	Weight (Kg)≈	
F.P	RP					A	B
/	1/4	79	100	294	7.5	3.1	2.9
1/2	3/8	111	125	264	10.5	5.1	4.7
3/4	1/2	111	125	320	13.5	5.1	4.7
1	3/4	120	160	379	18	9.0	7.4
1-1/4	1	120	160	478	24	10.5	9.7
1-1/2	1-1/4	140	180	607	29	16.7	16
2	1-1/2	178	180	636	36.5	21	19

Cast steel globe valve

NPS 2-12



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	WCB/LCB	WC6/WC9	CF8/CF8M/CF3/CF3M
2	Bonnet	WCB/LCB	WC6/WC9	CF8/CF8M/CF3/CF3M
3	Disc	A105/LF2	F11/F22	F304/F316/F304L/F316L
4	Seat Ring	A105/LF2	F11/F22	F304/F316/F304L/F316L
5	Stem	F6	F304	F304/F316/F304L/F316L
6	Stem nut	A439 D2/B 148-952A		
7	Packing	Graphite/PTFE		
8	Bolt	B7	B7	B8M/B8
9	Nut	2H	2H	8M/8
10	Hand wheel	Gr.60-40-18		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: BS 1873
 Face to Face dimension: ASME B16.10
 Connection Dimension:
 Flange: ASME B16.5
 Butt weld: ASME B16.25
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class150

NPS (inch)	L/L1 (mm)	L2 (mm)	H(OPEN) (mm)	W (mm)	Weight(kg)≈	
					RF	BW
2	203	216	373	200	22	19
2-1/2	216	229	390	250	29	25
3	241	254	421	250	42	34
4	292	305	515	300	64	46
5	356	369	538	300	77	65
6	406	419	567	350	105	82
8	495	508	626	400	154	131
10	622	365	712	450	288	249
12	698	711	990	610	507	430

Class300

NPS (inch)	L/L1 (mm)	L2 (mm)	H(OPEN) (mm)	W (mm)	Weight(kg)≈	
					RF	BW
2	267	283	398	200	31	26
2-1/2	292	308	436	250	43	28
3	318	333	462	250	57	44
4	356	371	560	350	86	68
5	400	416	620	400	130	110
6	444	460	694	450	168	138
8	559	575	982	560	280	228
10	622	638	1130	864	385	329
12	711	727	1049	460	724	618

Class600

NPS (inch)	L/L1 (mm)	L2 (mm)	H(OPEN) (mm)	W (mm)	Weight(kg)≈	
					RF	BW
2	292	295	425	250	39	33
2-1/2	330	333	502	300	58	48
3	356	359	521	350	73	61
4	432	435	620	450	120	95
6	559	562	886	720	327	261
5	660	664	932	460	482	385
10	787	791	1040	610	700	588
12	838	840	1282	760	900	795

Class900

NPS (inch)	L/L1 (mm)	L2 (mm)	H(OPEN) (mm)	W (mm)	Weight(kg)≈	
					RF	BW
2	368	371	240	350	100	75
2-1/2	419	422	260	400	118	94
3	381	384	260	450	131	105
4	457	460	320	560	218	185
6	737	613	382	460*	452	340
8	737	740	530	610*	710	630

Class1500

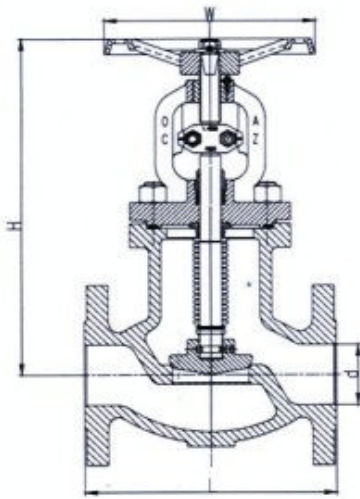
NPS (inch)	L/L1 (mm)	L2 (mm)	H(OPEN) (mm)	W (mm)	Weight(kg)≈	
					RF	BW
2	368	371	592	350	112	94
2-1/2	419	422	660	400	141	115
3	470	473	692	450	228	183
4	546	549	907	460*	336	277
6	705	711	1015	610*	822	715
8	832	841	1145	610	720	615

Class2500

NPS (inch)	L/L1 (mm)	L2 (mm)	H(OPEN) (mm)	W (mm)	Weight(kg)≈	
					RF	BW
2	368	371	520	355	118	101
2-1/2	419	422	550	420	130	105
3	470	473	580	455	162	125
4	546	549	645	559	270	226
6	705	711	1020	455	620	581
8	832	841	1180	455	960	872

Cast steel bellows sealed globe valve

NPS 1-10



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	WCB/LCB	WC6/WC9	CF8/CF8M/CF3/CF3M
2	Bonnet	WCB/LCB	WC6/WC9	CF8/CF8M/CF3/CF3M
3	Disc	A105/LF2	F11/F22	F304/F316/F304L/F316L
4	Seat Ring	A105/LF2	F11/F22	F304/F316/F304L/F316L
5	Stem	F6	F304	F304/F316/F304L/F316L
6	Stem nut	Gr.60-40-18		
7	Packing	Graphite/PTFE		
8	Bolt	B7	B7	B8M/B8
9	Nut	2H	2H	8M/8
10	Hand wheel	Gr.60-40-18		
11	Bellows	F321		F316L

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: BS 1873
 Face to Face dimension: ASME B16.10
 Connection Dimension:
 Flange: ASME B16.5
 Butt weld: ASME B16.25
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class150

NPS (inch)	L (mm)	H(OPEN) (mm)	W (mm)	d (mm)	Weight(Kg)≈	
					RF	BW
1	127	251	140	25	6.5	5.1
1-1/2	165	302	180	40	10.9	8.5
2	203	302	180	50	14.6	12.5
2-1/2	216	321	180	65	23	20
3	241	394	250	80	32.5	29.5
4	292	402	300	100	42	40
5	356	460	350	125	45	42
6	406	502	400	150	89.5	86
8	495	589	500	200	193.5	180
10	622	1077	600	250	380	335

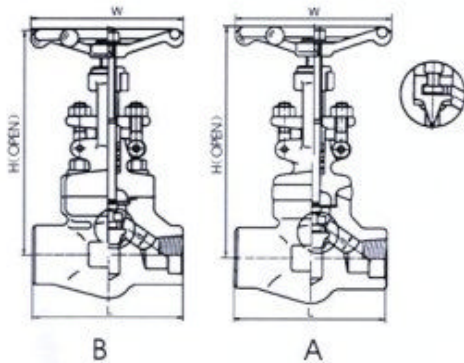
Class300

NPS (inch)	L (mm)	H(OPEN) (mm)	W (mm)	d (mm)	Weight(Kg)≈	
					RF	BW
1	203	251	140	25	7.3	6.2
1-1/2	229	302	180	40	15.4	14.1
2	267	302	180	50	31	26
2-1/2	292	321	180	65	43	28
3	318	394	250	80	57	44
4	356	402	300	100	86	68
5	400	460	350	125	130	110
6	444	502	400	150	168	138
8	559	589	500	200	280	228
10	622	1077	600	250	385	329

Forged steel globe valve

NPS 1/4-21/2

Form of major parts materials



NO.	Accessory Name	Material		
1	Body	A105	LF2/F11	F304(L)/F316(L)
2	Bonnet	A105	LF2/F11	F304(L)/F316(L)
3	Disc	F6a	F304/F6aHF	F304(L)/F316(L)
4	Stem	410	304/410	304(L)/316(L)
5	Stem nut	410		
6	Packing	Graphite		
7	Bolt	B7	B7	B8M/B8
8	Nut	2H	2H	8M/8
9	Hand wheel	A197		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design:	BS 5352
Connection Dimension:	
Flange	ASME B16.5
Butt weld	ASME B16.25
Screw thread	ASME B1.20.1
Socket weld	ASME B16.11
Pressure Test:	API 598
Pressure-Temperature Rating:	ASME B16.34

Dimension, Weight

Class800

NPS(inch)		L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg)≈	
F.P	RP					A	B
1/4	-	79	164	7	100	1.9	1.7
3/8	1/2	79	164	9	100	2.3	1.7
1/2	3/4	92	164	13	100	2.4	1.9
3/4	1	111	203	17.5	125	4.3	3.3
1	1-1/4	120	224	23	160	5.8	5.2
1-1/4	1-1/2	152	260	30	160	7.8	6.8
1-1/2	2	172	300	35	180	12.5	10.6
2	2-1/2	200	355	46	200	17.5	13.8

Class900-1500

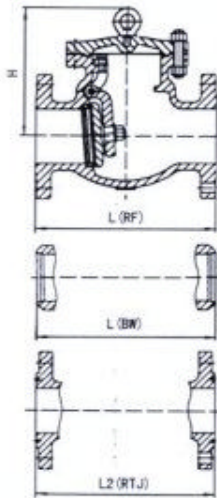
NPS(inch)		L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg)≈	
F.P						A	B
1/4	-	92	171	7	100	2.3	2.0
3/8	1/2	111	207	12	125	3.7	3.4
1/2	3/4	111	207	15	125	3.6	3.3
3/4	1	120	240	20	160	6.8	6.0
1	1-1/4	152	258	28	160	7.6	6.6
1-1/4	1-1/2	172	330	32	180	11.6	10.3
1-1/2	2	200	355	40	200	15	14.2
2	2-1/2	220	370	45	240	21.9	18.0

Class2500

NPS(inch)	L (mm)	H (mm)	d (mm)	W (mm)	Weight (Kg)≈
1/2	150	293	11	130	10
3/4	150	300	14	130	10.3
1	210	390	19	250	22.4
1-1/4	/	/	/	/	/
1-1/2	235	435	28	300	38
2	235	435	35	300	38

Cast steel swing check valve

NPS 2-12



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
2	Bonnet	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
3	Flap	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
4	Flap seating	A105/LF2	F11/F22	F316/F304/F316L/F304L
5	Shaft	F304		F316/F304/F316L/F304L
6	Gasket	Graphite/PTFE		
7	Bolt	B7	B7	B8M/B8
8	Nut	2H	2H	8M/8
9	Disc nut	F304	F304	F316/F304/F316L/F304L

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: BS 1868
 Face to Face dimension: ASME B16.10
 Connection Dimension:
 Flange: ASME B16.5
 Butt weld: ASME B16.25
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class150

NPS (inch)	L/L1 (mm)	L2 (mm)	H (mm)	Weight(kg)≈	
				RF	BW
2	203	216	150	17	13
2-1/2	216	229	168	21	17
3	241	254	180	29	24
4	292	305	210	42	36
5	330	343	230	69	57
6	356	368	275	74	62
8	495	508	340	108	96
10	622	635	355	177	158
12	698	711	410	282	238

Class300

NPS (inch)	L/L1 (mm)	L2 (mm)	H (mm)	Weight(kg)≈	
				RF	BW
2	267	283	180	21	16
2-1/2	292	308	185	32	24
3	318	333	210	43	35
4	356	371	270	61	44
5	400	416	345	84	61
6	444	460	360	131	105
8	533	549	370	213	167
10	622	638	385	384	272
12	711	727	440	449	375

Class600

NPS (inch)	L/L1 (mm)	L2 (mm)	H (mm)	Weight(kg)≈	
				RF	BW
2	292	295	197	36	28
2-1/2	330	333	207	49	40
3	356	359	231	68	57
4	432	435	281	111	83
6	559	562	362	230	191
8	660	664	437	416	361
10	787	791	490	673	543
12	838	841	528	875	770

Class900

NPS (inch)	L/L1 (mm)	L2 (mm)	H (mm)	Weight(kg)≈	
				RF	BW
2	368	371	240	69	52
2-1/2	419	422	260	93	74
3	381	384	260	91	70
4	457	460	320	145	112
6	610	613	382	259	218
8	737	740	530	565	448
10	838	841	560	900	733
12	965	968	590	1200	975

Class1500

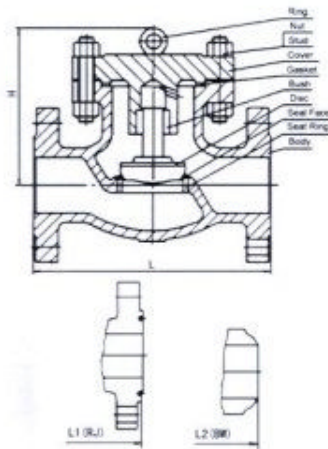
NPS (inch)	L/L1 (mm)	L2 (mm)	H (mm)	Weight(kg)≈	
				RF	BW
2	368	371	310	69	49
2-1/2	419	422	310	93	74
3	470	473	330	140	111
4	546	549	355	232	185
6	705	711	400	490	375
8	832	841	530	990	803
10	991	1000	560	1490	1250
12	1130	1146	650	1970	1625

Class2500

NPS (inch)	L/L1 (mm)	L2 (mm)	H (mm)	Weight(kg)≈	
				RF	BW
2	451	454	350	170	142
2-1/2	508	514	380	210	195
3	578	584	423	250	204
4	673	683	465	405	365
6	914	927	515	570	510
8	1022	1038	580	830	781

Cast steel lift check valve

NPS 2-12



Form of major parts materials

NO.	Accessory Name	Material		
1	Body	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
2	Bonnet	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
3	Flap	WCB/LCB	WC6/WC9	CF8M/CF8/CF3M/CF3
4	Flap seating	A105/LF2	F11/F22	F316/F304/F316L/F304L
5	Shaft	F304		F316/F304/F316L/F304L
6	Gasket	Graphite/PTFE		
7	Bolt	B7	B7	B8M/B8
8	Nut	2H	2H	8M/8
9	Disc nut	F304	F304	F316/F304/F316L/F304L

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: API 6D /ASME B16.34
 Face to Face Dimension: ASME B16.10
 Flange Dimension: ASME B16.5
 Shell Wall Thickness: ASME B16.34
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension,Weight

Class1500/300

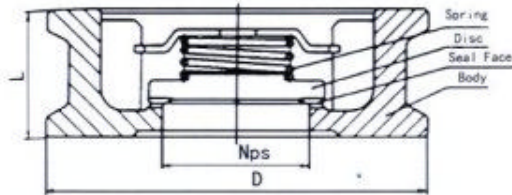
NPS (inch)	L(mm)		H(mm)		Weight(kg)≈	
	150Lb	300Lb	150Lb	300Lb	150Lb	300Lb
2	203	267	179	198	17	28
2-1/2	216	292	194	219	25	32
3	241	318	214	244	29	42
4	292	356	238	275	48	67
5	356	400	260	298	68	98
6	406	445	291	327	85	135
8	495	559	343	381	138	203
10	622	622	389	432	210	296
12	698	711	438	495	350	448

Class600

NPS (inch)	L(mm)	L1(mm)	L2(mm)	H (mm)	Weight(kg)≈	
	RF	RJ	BW		RF	BW
2	292	295	292	214	32	27
2-1/2	330	333	330	235	45	38
3	356	359	356	262	58	47
4	432	435	432	300	102	79
5	508	511	508	330	147	104
6	559	562	559	368	195	148
8	660	664	584	421	308	211
10	787	791	711	483	455	305
12	838	841	813	530	630	470

Cast steel wafer lift check valve

NPS 1/2-6



Form of major parts materials

NO.	Accessory Name	Material		
		Material 1	Material 2	Material 3
1	Body	WCB/LCB	WC6/WC9	CF8M/CF8
2	Disc	F6a	F6a	F316(L)/F304(L)
3	Flap seating	13%Cr	13%Cr	13%Cr+STL
4	Sping	AIS6150	17-7PH	17-7PH

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: API 6D / API 594
 Face to Face Dimension: API 594/API 6D(Long sizes)
 Flange Dimension: ASME B16.5a
 Shell Wall Thickness: API 594
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class150/300

NPS (inch)	L(mm)		D(mm)		Weight(kg)≈	
	150Lb	300Lb	150Lb	300Lb	150Lb	300Lb
1/2	16	25	48	54	0.3	0.35
3/4	19	31.5	57	65	0.35	0.45
1	22	35.5	67	73	0.5	0.6
1-1/4	28.5	40	76	81	0.7	0.85
1-1/2	31.5	46	86	95	0.9	1.2
2	40	56	105	111	1.3	2.4
2-1/2	46	63.5	124	130	2.5	3.5
3	51	71	137	149	3.4	5.9
4	60	80	175	181	7.5	9.8
6	106	125	222	251	16	21

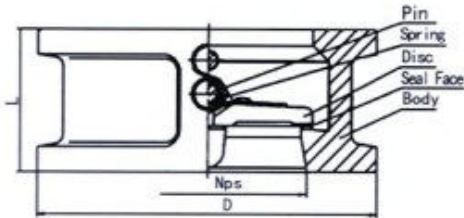
Class600

NPS (inch)	L(mm)	D(mm)	Weight(kg)≈
1/2	25	57	0.38
3/4	31.5	65	0.47
1	35.5	73	0.64
1-1/4	40	81	0.9
1-1/2	46	95	1.35
2	56	111	2.5
2-1/2	63.5	130	4.2
3	71	149	6.5
4	80	194	12
6	125	267	24

Cast steel wafer swing check valve

NPS 2-16

Form of major parts materials



NO.	Accessory Name	Material		
		WCB/LCB	WC6/WC9	CF8M/CF8
1	Body	WCB/LCB	WC6/WC9	CF8M/CF8
2	Disc	F6a	F6a	F316(L)/F304(L)
3	Seal face	13%Cr	13%Cr	13%Cr+STL
4	Sping	AIS6150	17-7PH	17-7PH

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: API 6D / API 594
 Face to Face Dimension: API 594/API 6D(Long sizes)
 Flange Dimension: ASME B16.5a
 Shell Wall Thickness: API 594
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

Class 150/300

NPS (inch)	L(mm)		D(mm)		Weight(kg)≈	
	150Lb	300Lb	150Lb	300Lb	150Lb	300Lb
2	60	60	105	111	2.7	3.2
2-1/2	67	67	124	130	3.6	4.5
3	73	73	137	149	5.4	5.4
4	73	73	175	181	7.7	8.5
6	98	98	222	251	17	17
8	127	127	279	308	30	35
10	146	146	340	362	48	56
12	181	181	410	422	85	95
14	184	222	451	486	95	136
16	191	232	514	540	124	180

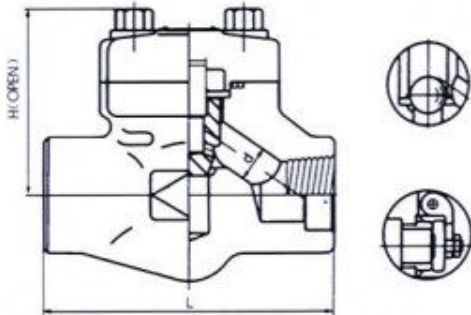
Class 600

NPS (inch)	L(mm)	D(mm)	Weight(kg)≈
2	60	111	3.2
2-1/2	67	130	4.5
3	73	149	5.4
4	79	194	10
6	137	267	32
8	165	321	68
10	213	400	95
12	229	457	130
14	273	492	180
16	305	565	250

Forged steel swing/lift check valve

NPS 1/4-2

Form of major parts materials



NO.	Accessory Name	Material		
1	Body	A105	LF2/F11	F304(L)/F316(L)
2	Bonnet	A105	LF2/F11	F304(L)/F316(L)
3	Disc	F6a	F304/F6aHF	F304(L)/F316(L)
4	Pin	410	304/410	304(L)/316(L)
5	Steel ball	430	304	316(L)
6	Bolt	B7	L7/B16	B8M/B8
7	Nut	2H	8	8M/8
8	Gasket	304/304(L)/316(L)		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: BS 5352
 Connection Dimension:
 Flange ASME B16.5
 Butt weld ASME B16.25
 Screw thread ASME B1.20.1
 Socket weld ASME B16.11
 Pressure Test: API 598
 Pressure-Temperature Rating: ASME B16.34

Class800

Dimension, Weight bolted bonnet

NPS (inch)		L(mm)		H(mm)		d(mm)		Weight(kg)≈	
F.P	R.P	Lift	Swing	Lift	Swing	Lift	Swing	Lift	Swing
1/4	/	79	79	61	61	7	8	1.2	1.4
3/8	1/2	79	79	61	61	9	10.5	1.5	1.5
1/2	3/4	92	92	61	61	13	13.5	1.7	1.7
3/4	1	111	111	78	78	17.5	18	3.3	3.3
1	1-1/4	120	120	84	84	23	24	4.2	4.2
1-1/4	1-1/2	152	120	84	84	30	29	4.2	4.2
1-1/2	2	172	140	118	120	35	36.5	10.5	8.5
2	/	200	178	132	133	46	45	12.5	10.9

Class800

Welded bonnet

NPS(inch)		L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	R.P				
1/4	/	79	61	7	1.2
3/8	1/2	79	61	9	1.3
1/2	3/4	92	61	13	1.5
3/4	1	111	78	17.5	3.0
1	1-1/4	120	84	23	3.9
1-1/4	1-1/2	152	103	30	6.0
1-1/2	2	172	118	35	10
2	/	200	132	46	12

bolted bonnet

Class900-1500

NPS (inch)		L(mm)		H(mm)		d(mm)		Weight(kg)≈	
F.P	R.P	Lift	Swing	Lift	Swing	Lift	Swing	Lift	Swing
1/4	/	92	92	61	61	7	8	1.5	1.5
3/8	1/2	111	111	78	78	12	10.5	3.4	3.4
1/2	3/4	111	111	78	78	15	13.5	3.3	3.3
3/4	1	120	120	84	84	20	18	4.2	4.2
1	1-1/4	152	120	103	101	28	24	6.3	5.0
1-1/4	1-1/2	172	140	118	120	32	29	10.5	8.5
1-1/2	2	200	178	132	133	40	45	12.5	10.9

Welded bonnet

Class900-1500

NPS(inch)		L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	R.P				
1/4	/	92	61	7	1.3
3/8	1/2	111	78	12	3.1
1/2	3/4	111	78	15	3.1
3/4	1	120	84	20	3.9
1	1-1/4	152	103	28	5.8
1-1/4	1-1/2	172	118	32	10.0
1-1/2	2	200	132	40	11.5

bolted bonnet

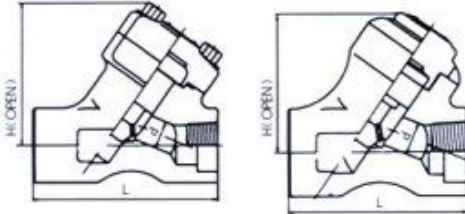
Class2500

NPS(inch)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P				
1/4	150	166	7.5	1.9
3/8	150	166	10.5	2.3
1/2	150	171	11	17
3/4	150	207	14	46
1	210	240	19	62
1-1/4	235	258	25	73
1-1/2	235	330	28	58
2	235	355	35	85

Forged steel Y- check valve

NPS 1/4-2

Form of major parts materials



NO.	Accessory Name	Material		
1	Body	A105	LF2/F11	F304(L)/F316(L)
2	Bonnet	A105	LF2/F11	F304(L)/F316(L)
3	Disc	F6a	F304/F6aHF	F304(L)/F316(L)
4	Pin	410	304/410	304(L)/316(L)
5	Steel ball	430	304	316(L)
6	Bolt	B7	L7/B16	B8M/B8
7	Gasket	304+Graphite	2H	304/316 +Graphite

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design:	BS 5352
Connection Dimension:	
Flange	ASME B16.5
Butt weld	ASME B16.25
Screw thread	ASME B1.20.1
Socket weld	ASME B16.11
Pressure Test:	API 598
Pressure-Temperature Rating:	ASME B16.34

Dimension, Weight

bolted bonnet

Class800

NPS(inch)		L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	R.P				
1/4	/	98	70	7	2.2
3/8	1/2	98	70	10	2.2
1/2	3/4	98	70	13	2.1
3/4	1	111	100	17.5	4.2
1	1-1/4	140	110	23	9
1-1/4	1-1/2	140	120	30	8.9
1-1/2	2	155	120	35	10
2	/	170	150	46	18.6

Welded bonnet

Class800

NPS(inch)		L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	R.P				
1/4	/	79	65	7	1.8
3/8	1/2	79	65	10	1.8
1/2	3/4	92	65	13	2.0
3/4	1	100	95	17.5	3.5
1	1-1/4	140	105	23	8.0
1-1/4	1-1/2	140	110	30	8.0
1-1/2	2	155	110	35	12
2	/	170	140	46	16

bolted bonnet**Class900-1500**

NPS(inch)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P				
3/8	98	70	9	2.1
1/2	111	70	12	4.2
3/4	111	100	15	9
1	140	110	20	8.9
1-1/4	140	110	28	10
1-1/2	155	120	32	18.6
2	170	150	40	20

Welded bonnet**Class900-1500**

NPS(inch)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P				
3/8	92	65	9	2.0
1/2	100	65	12	3.5
3/4	100	65	15	3.5
1	140	105	20	8.0
1-1/4	140	110	32	12
1-1/2	155	110	28	12
2	170	140	40	18

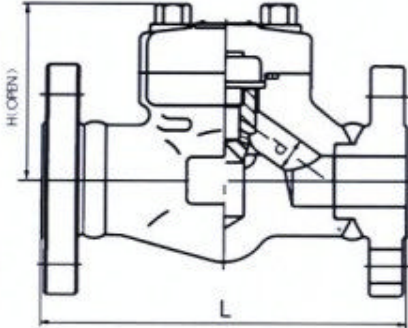
bolted bonnet**Class2500**

NPS(inch)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P				
3/8	186	233	9	11.2
1/2	186	233	11	11.5
3/4	186	233	14	10.6
1	186	233	19	10.8
1-1/4	232	256	25	25
1-1/2	232	256	28	22
2	310	330	35	39

Forged steel Flange/Butt weld lift check valve

NPS 1/2-2

Form of major parts materials



NO.	Accessory Name	Material		
1	Body	A105	LF2/F11	F304(L)/F316(L)
2	Bonnet	A105	LF2/F11	F304(L)/F316(L)
3	Disc	F6a	F304/F6aHF	F304(L)/F316(L)
4	Pin	410	304/410	304(L)/316(L)
5	Steel ball	430	304	316(L)
6	Bolt	B7	L7/B16	B8M/B8
7	Gasket	304/304(L)/316(L)+ Graphite		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: BS 5352

Connection Dimension:

Flange: ASME B16.5

Butt weld: ASME B16.25

Pressure Test: API 598

Pressure-Temperature Rating: ASME B16.34

Dimension, Weight bolted bonnet

Class 150/300/6000

NPS (inch)	L/L1(mm)			H(mm)		d (mm)	Weight(kg)≈					
							150LB		300LB		600LB	
	R.P	150Lb	300Lb	600Lb	150Lb		300/600Lb	RF	BW	RF	BW	RF
1/2	108	153	165	77	61	10	3.6	3.0	3.7	3.2	4.0	3.4
3/4	118	178	191	81	78	13	4.6	3.6	4.8	4.3	5.8	5.1
1	127	203	216	93	84	17.5	8.5	7.6	8.8	8.0	9.5	8.8
1-1/4	140	216	229	95	101	23	9.2	8.5	9.6	8.6	10.4	9.2
1-1/2	165	229	241	103	120	30	12.5	11.3	13.7	12.7	15.6	14.8
2	203	267	292	118	133	35	14.8	13.6	17.8	16.2	24.5	22.5

Screwed bonnet

Class1500/300/600

NPS (inch)	L/L1(mm)			H(mm)		d (mm)	Weight(kg)≈					
	150Lb	300Lb	600Lb	150Lb	300/600Lb		150LB		300LB		600LB	
R.P							RF	BW	RF	BW	RF	BW
1/2	108	153	165	77	61	10	3.2	2.8	4.6	4.1	4.8	4.4
3/4	118	178	191	81	78	13	3.5	3.0	6.1	5.7	6.3	5.9
1	127	203	216	93	84	17.5	4.6	4.0	9.1	8.4	9.3	8.7
1-1/4	140	216	229	95	101	23	5.2	4.6	12	11.2	13	12.1
1-1/2	165	229	241	103	120	30	7.0	6.3	16	14.5	16.5	15.8
2	203	267	292	118	133	35	16	15	21	19.5	22	20.8

Screwed bonnet

Class2500

NPS(inch)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	RF/BW			
1/2	216	81	12	5.2
3/4	229	93	15	6.8
1	254	95	20	10.5
1-1/4	280	101	28	28
1-1/2	305	118	32	18
2	371	130	40	24

Screwed bonnet

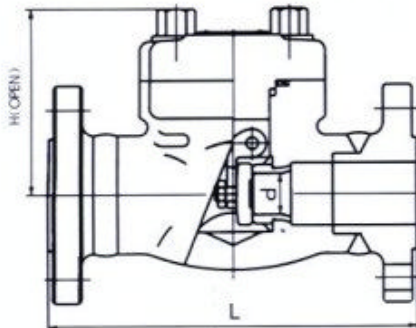
Class900-1500

NPS(inch)	L(mm)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	RF/BW	RTJ			
1/2	264	264	81	12	17
3/4	273	273	93	15	21
1	308	308	95	20	28
1-1/4	349	352	101	28	14.5
1-1/2	384	387	118	32	58
2	450	454	130	40	85

Forged steel Flange/Butt weld swing check valve

NPS 1/2-2

Form of major parts materials



NO.	Accessory Name	Material		
1	Body	A105	LF2/F11	F304(L)/F316(L)
2	Bonnet	A105	LF2/F11	F304(L)/F316(L)
3	Disc	F6a	F304/F6aHF	F304(L)/F316(L)
4	Pin	410	304/410	304(L)/316(L)
5	Steel ball	430	304	316(L)
6	Bolt	B7	B7	B8M/B8
7	Nut	2H	2H	8M/8
8	Gasket	304/304(L)/316(L)+ Graphite		

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards

Design: BS 5352

Connection Dimension:

Flange: ASME B16.5
 Butt weld: ASME B16.25
 Screw thread: ASME B1.20.1
 Socket weld: ASME B16.11

Pressure Test: API 598

Pressure-Temperature Rating: ASME B16.34

Dimension, Weight bolted bonnet

Class 150/300/600

NPS (inch)	L/L1(mm)			H(mm)		d (mm)	Weight(kg)≈					
							150LB		300LB		600LB	
	R.P	150Lb	300Lb	600Lb	150Lb		300/600Lb	RF	BW	RF	BW	RF
1/2	108	153	165	77	61	10.5	3.6	3.0	3.7	3.2	4.0	3.4
3/4	118	178	191	81	78	13.5	4.6	3.6	4.8	4.3	5.8	5.1
1	127	203	216	93	84	18	8.5	7.6	8.8	8.0	9.5	8.8
1-1/4	140	216	229	95	101	24	9.2	8.5	9.6	8.6	10.4	9.2
1-1/2	165	229	241	103	120	29	12.5	11.3	13.7	12.7	15.6	14.8
2	203	267	292	118	133	36.5	14.8	13.6	17.8	16.2	24.5	22.5

Screwed bonnet

Class150/300/600

NPS (inch)	L/L1(mm)			H(mm)		d (mm)	Weight(kg)≈					
	150Lb	300Lb	600Lb	150Lb	300/600Lb		150LB		300LB		600LB	
R.P							RF	BW	RF	BW	RF	BW
1/2	108	153	165	77	61	10.5	3.6	3.0	3.7	3.2	4.0	3.4
3/4	118	178	191	81	78	13.5	4.6	3.6	4.8	4.3	5.8	5.1
1	127	203	216	93	84	18	8.5	7.6	8.8	8.0	9.5	8.8
1-1/4	140	216	229	95	101	24	9.2	8.5	9.6	8.6	10.4	9.2
1-1/2	165	229	241	103	120	29	12.5	11.3	13.7	12.7	15.6	14.8
2	203	267	292	118	133	36.5	14.8	13.6	17.8	16.2	24.5	22.5

Screwed bonnet

Class900-1500

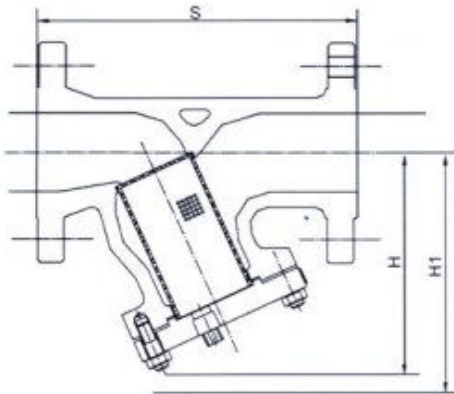
NPS(inch)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	RF/BW			
1/2	216	81	13.5	5.0
3/4	229	93	18	6.1
1	254	95	24	10.8
1-1/4	280	101	29	29
1-1/2	305	118	36.5	17.6
2	371	130	45	27

Screwed bonnet

Class2500

NPS(inch)	L(mm)	L(mm)	H(mm)	d(mm)	Weight(kg)≈
F.P	RF/BW	RTJ			
1/2	264	264	81	10.5	5.0
3/4	273	273	93	13.5	6.1
1	308	308	95	18	10.8
1-1/4	349	352	101	24	11.2
1-1/2	384	387	118	29	17.6
2	450	454	130	36.5	27

Cast steel Flange/Butt weld Y-Strainer



Form of major parts materials

NO.	Accessory Name	Material	
1	Body	WCB	CF8M/CF8/CF3/CF3M
2	Cover	WCB	CF8M/CF8/CF3/CF3M
3	Screen	F304	F316(L)/F304(L)
4	Sealing	Graphite	
5	Screw	B7	B8M
6	Nut	2H	8M

Notes: Major parts of the valve series and materials of sealing surface differ according to actual working condition and customer's special requirement.

Design and inspection Standards:

Design and Manufactory: ANSI B16.34

Connection Dimension:

Flange: ASME B16.5

Butt weld: ASME B16.25

Face to Face: ASME B16.10

Pressure Test: API 598

Pressure-Temperature Rating: ASME B16.34

Dimension, Weight

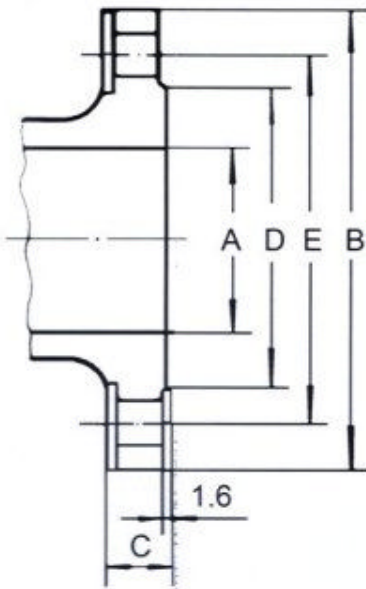
Class150/300/600/1500

NPS (inch)	150Lb				300Lb				600Lb				1500Lb			
	S	H	H1	WT (Kg)	S	H	H1	WT (Kg)	S	H	H1	WT (Kg)	S	H	H1	WT (Kg)
1/2	146	120	180	6	152	120	180	6	165	120	180	6	248	160	250	15
3/4	172	140	210	9	178	140	210	9	191	140	210	9	260	165	280	18
1	197	170	240	11	203	170	240	11	216	170	240	11	295	175	320	18
1-1/2	219	180	270	20	229	180	270	20	241	180	270	20	305	220	330	35
2	203	140	190	24	267	175	250	20	292	193	270	35	368	250	400	60
3	241	210	260	26	318	240	275	45	356	260	320	60	470	325	540	100
4	292	270	340	40	356	330	360	65	432	310	400	95	546	375	600	160
6	406	360	400	68	445	380	470	105	559	400	530	230	705	480	750	400
8	495	460	580	140	559	500	575	180	660	500	650	400	832	620	900	600
10	622	570	660	190	622	538	820	240	787	600	790	590	991	700	1100	1200
12	699	700	800	340	711	699	1150	430	838	720	1200	700	1130	800	1300	1500

END FLANGE DIMENSIONS

Integral Steel Flanges for Valves
 1-1/2" - 24" : ANSIB16.5 1981
 Bs1560 1958

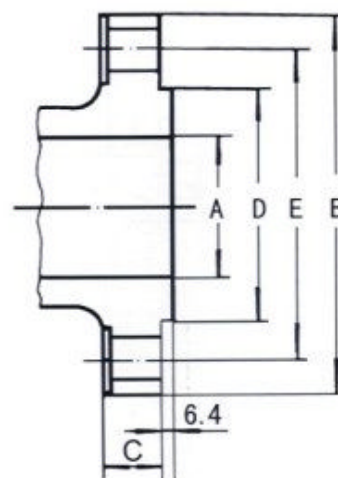
>24":MSS SP-44 1991



Class 150/300 RF

Nominal Size	Bore A	Outside Dia. B	Thickness of Flange C	Raised face Dia. D	Dia. of bolt circle E	Number of bolt holes	Dia. of bolt
Class 150,RF							
1-1/2"	38.1	127	17.5	73	98.4	4	1/2"
2"	50.8	152.4	19.1	92.1	120.7	4	5/8"
2-1/2"	63.5	177.8	22.2	104.8	139.7	4	5/8"
3"	76.2	190.5	23.8	127	152.4	4	5/8"
4"	101.6	228.6	23.8	157.2	190.5	8	5/8"
5"	127	254	23.8	185.7	215.9	8	3/4"
6"	152.4	279.4	25.4	215.9	241.3	8	3/4"
8"	203.2	342.9	28.6	269.9	298.5	8	3/4"
10"	254	406.4	30.2	323.9	362	12	7/8"
12"	304.8	482.6	31.8	381	431.8	12	7/8"
14"	336.6	533.4	34.9	412.8	476.3	12	1"
16"	387.4	596.9	36.5	469.9	539.8	16	1"
18"	438.2	635	39.7	533.4	577.9	16	1-1/8"
20"	489	698.5	42.9	584.2	635	20	1-1/8"
24"	590.6	812.8	47.7	692.2	749.3	20	1-1/4"
26"	635	869.9	68.3	749.3	806.4	24	1-3/8"
28"	685.8	927.1	74.1	800.1	863.6	28	1-3/8"
30"	736.6	984.2	74.7	857.2	914.4	28	1-3/8"
32"	781.1	1060.4	80.8	914.4	977.9	28	1-5/8"
34"	831.9	1111.2	82.5	965.2	1028.7	32	1-5/8"
36"	876.3	1168.4	90.4	1022.3	1085.8	32	1-5/8"
38"	927.1	1236.2	87.4	1073.1	1149.3	32	1-5/8"
40"	977.9	1289	90.4	1123.9	1200.1	36	1-5/8"
42"	1022.4	1346.2	96.8	1193.8	1257.3	36	1-5/8"
Class 300,RF							
1-1/2"	38.1	155.6	20.6	73	114.3	4	3/4"
2"	50.8	165.1	22.2	92.1	127	8	5/8"
2-1/2"	63.5	190.5	25.4	104.8	149.2	8	3/4"
3"	76.2	209.5	28.6	127	168.3	8	3/4"
4"	101.6	254	31.8	157.2	200	8	3/4"
5"	127	279.4	34.9	185.7	235	8	3/4"
6"	152.4	317.5	36.5	215.9	269.9	12	3/4"
8"	203.2	381	41.3	269.9	330.2	12	7/8"
10"	254	444.5	47.6	323.9	387.4	16	1"
12"	304.8	520.7	50.8	381	450.9	16	1-1/8"
14"	336.6	584.2	54	412.8	514.4	20	1-1/8"
16"	387.4	647.7	57.2	469.9	571.5	20	1-1/4"
18"	431.8	711.2	60.3	533.4	628.7	24	1-1/4"
20"	482.5	774.7	63.5	584.2	685.8	24	1-1/4"
22"	533.4	838.2	66.5	641.4	743	24	1-1/2"
24"	534.2	914.4	69.9	692.2	812.8	24	1-1/2"
26"	635	971.5	79.2	749.2	876.3	28	1-3/4"
28"	685.8	1035	85.5	800.1	939.8	28	1-3/4"
30"	736.6	1092.2	91.9	857.2	996.9	28	1-7/8"
32"	781.1	1149.3	98.5	914.4	1054.1	28	2"
34"	831.9	1206.5	101.6	965.2	1104.9	28	2"
36"	876.3	1270	104.6	1022.3	1168.4	32	2-1/8"
38"	927.1	1168.4	107.9	1028.7	1092.2	32	1-5/8"
40"	977.9	1238.2	114.3	1085.8	1155.7	32	1-3/4"
Class 600,RF							
1-1/2"	38.1	155.6	22.2	73.0	114.3	4	3/4"
2"	50.8	165.1	25.4	92.1	127.0	8	5/8"
2-1/2"	63.5	190.5	28.6	104.8	149.2	8	3/4"
3"	76.2	209.6	31.8	127.0	168.3	8	3/4"

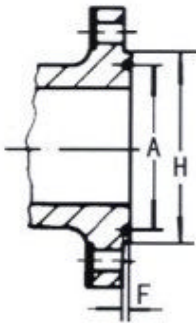
Nominal Size	Bore A	Outside Dia. B	Thickness of Flange C	Raised face Dia. D	Dia. of bolt circle E	Number of bolt holes	Dia. of bolt
Class 600,RF							
4"	1016	273.1	38.1	157.2	215.9	8	7/8"
5"	127.0	330.1	44.5	185.7	266.7	8	1"
6"	152.4	355.6	47.6	215.9	292.1	12	1"
8"	200.0	419.1	55.6	269.9	349.3	12	1-1/8"
10"	247.7	508.0	63.5	323.9	431.8	16	1-1/4"
12"	298.5	558.8	66.7	381.0	489.0	20	1-1/4"
14"	327.0	603.3	69.9	412.8	527.1	20	1-3/8"
16"	374.7	685.8	76.2	469.9	603.3	20	1-1/2"
18"	419.1	743.1	82.6	533.4	654.1	20	1-5/8"
20"	463.6	812.8	88.9	584.2	723.9	24	1-5/8"
24"	558.8	939.8	101.6	692.2	838.2	24	1-7/8"
26"	635.0	1016.0	107.9	749.3	914.4	28	2"
28"	685.8	1073.1	111.2	800.1	965.2	28	2-1/8"
30"	736.6	1130.3	114.3	857.3	1022.3	28	2-1/8"
32"	781.1	1193.8	117.3	914.4	1079.5	28	2-3/8"
32"	831.9	1244.6	120.6	965.2	1130.3	28	2-3/8"
36"	876.3	1314.4	123.9	1022.4	1193.8	28	2-5/8"
Class 900,RF							
1-1/2"	34.8	177.8	31.8	73.0	123.8	4	1"
2"	47.5	215.9	38.1	92.1	165.1	8	7/8"
2-1/2"	57.2	244.5	41.2	101.8	190.5	8	1"
3"	72.9	241.3	38.1	127.0	190.5	8	7/8"
4"	98.3	292.1	44.5	157.2	235.0	8	1-1/8"
5"	120.7	349.3	50.8	185.7	279.4	8	1-1/4"
6"	146.1	381.0	55.6	215.9	317.5	12	1-1/8"
8"	190.5	469.9	63.5	269.9	393.7	12	1-3/8"
10"	238.0	546.1	69.9	323.9	469.9	16	1-3/8"
12"	282.4	609.6	79.4	381.0	533.4	20	1-3/8"
14"	311.2	641.4	85.7	412.8	558.8	20	1-1/2"
16"	355.6	704.9	88.9	469.9	616.0	20	1-5/8"
18"	400.1	787.4	101.6	533.4	685.8	20	1-7/8"
20"	444.5	857.3	108.0	584.2	749.3	20	2"
24"	533.4	1041.4	139.7	692.2	901.7	20	2-1/2"
Class 1500,RF							
1-1/2"	34.8	177.8	31.8	73.0	123.8	4	1"
2"	47.5	215.8	38.1	92.1	165.1	8	7/8"
2-1/2"	57.2	244.5	41.2	104.8	190.5	8	1"
3"	69.9	266.7	47.8	127.0	203.2	8	1-1/8"
4"	92.0	311.2	54.0	157.2	241.3	8	1-1/4"
5"	111.0	374.7	73.2	185.5	292.1	8	1-1/2"
6"	136.5	393.7	82.6	215.9	317.5	12	1-3/8"
8"	177.8	482.6	92.1	269.9	393.7	12	1-5/8"
10"	223.0	584.2	108.0	323.9	482.2	12	1-7/8"
12"	263.5	673.1	124.0	381.0	571.5	16	2"
14"	288.9	749.3	133.4	412.8	635.0	16	2-1/4"
16"	330.2	825.5	146.1	469.9	704.9	16	2-1/2"
18"	371.5	914.4	162.1	533.4	774.7	16	2-3/4"
20"	415.9	984.3	177.8	584.2	831.9	16	3"
24"	498.5	1168.4	203.2	692.2	990.6	16	3-1/2"
Class 2500,RF							
1-1/2"	28.6	203.2	44.5	73.0	146.1	4	1-1/8"
2"	38.1	235.0	50.8	92.1	171.5	8	1"
2-1/2"	47.6	266.7	57.2	104.8	196.9	8	1-1/8"
3"	57.2	304.8	66.5	127.0	228.6	8	1-1/4"
4"	73.0	355.6	76.2	157.2	273.1	8	1-1/2"
5"	92.1	419.1	92.0	185.7	323.9	8	1-3/4"
6"	111.1	482.6	108.0	215.9	368.3	8	2"
8"	146.1	552.5	127.0	269.9	438.2	12	2"
10"	184.2	673.1	165.1	323.9	539.8	12	2-1/2"
12"	219.1	762.0	184.2	381.0	619.3	12	2-3/4"



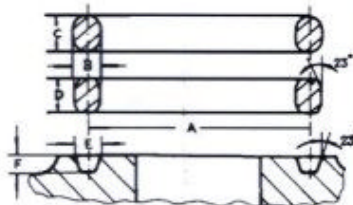
Class 600/900/1500/2500 RF

RING JOINT FACINGS AND RINGS

American National Standard--Dimensions, in Inches



Class	Size	Ring No	A	B	C	D	E	F	H
Class 300 400 600	1-1/2	R20	2.688	0.312	0.562	0.500	0.344	0.250	3.56
	2	R23	3.250	0.438	0.688	0.500	0.469	0.312	4.25
	2-1/2	R26	4.000	0.438	0.688	0.500	0.469	0.312	5.00
	3	R31	4.875	0.438	0.688	0.500	0.469	0.312	5.75
	3-1/2	R34	5.188	0.438	0.688	0.625	0.469	0.312	6.25
	4	R37	5.875	0.438	0.688	0.625	0.469	0.312	6.88
	5	R41	7.125	0.438	0.688	0.625	0.469	0.312	8.25
	6	R45	8.312	0.438	0.688	0.625	0.469	0.312	9.5
	8	R49	10.625	0.438	0.688	0.625	0.469	0.312	11.88
	10	R53	12.750	0.438	0.688	0.625	0.469	0.312	14.00
	12	R57	15.00	0.438	0.688	0.625	0.469	0.312	16.25
	14	R61	16.500	0.438	0.688	0.625	0.469	0.312	18.00
	16	R65	18.500	0.438	0.688	0.625	0.469	0.312	20.00
	18	R69	21.000	0.438	0.688	0.625	0.469	0.312	22.62
	20	R73	23.000	0.500	0.750	0.688	0.531	0.375	25.00
	24	R77	27.250	0.625	0.875	0.812	0.656	0.438	29.50



Class	Size	Ring No	A	B	C	D	E	F	H
Class 900	1-1/2	R20	2.688	0.312	0.562	0.500	0.344	0.250	3.62
	2	R24	3.750	0.438	0.688	0.625	0.469	0.312	4.88
	2-1/2	R27	4.250	0.438	0.688	0.625	0.469	0.312	5.39
	3	R31	4.875	0.438	0.688	0.625	0.469	0.312	6.12
	4	R37	5.875	0.438	0.688	0.625	0.469	0.312	7.12
	5	R41	7.125	0.438	0.688	0.625	0.469	0.312	8.50
	6	R45	8.312	0.438	0.688	0.625	0.469	0.312	9.50
	8	R49	10.625	0.438	0.688	0.625	0.469	0.312	12.12
	10	R53	12.750	0.438	0.688	0.625	0.469	0.312	14.25
	12	R57	15.000	0.438	0.688	0.625	0.469	0.312	16.50
	14	R62	16.500	0.625	0.875	0.812	0.656	0.438	18.38
	16	R66	18.500	0.625	0.875	0.812	0.656	0.438	20.62
	18	R70	21.000	0.750	1.000	0.938	0.781	0.500	23.38
	20	R74	23.000	0.750	1.000	0.938	0.781	0.500	25.50
	24	R78	27.250	1.000	1.312	1.250	0.625	0.625	30.38

Class 300/400/600/900/1500

Oval rings fit grooves having either a flat or round bottom;
Octagonal rings only fit grooves having a flat bottom.

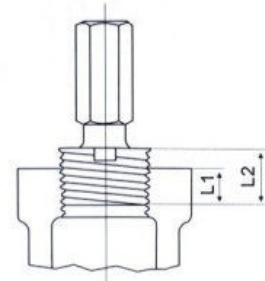
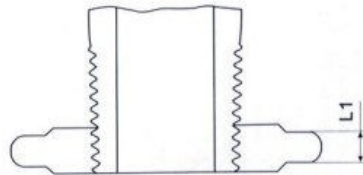
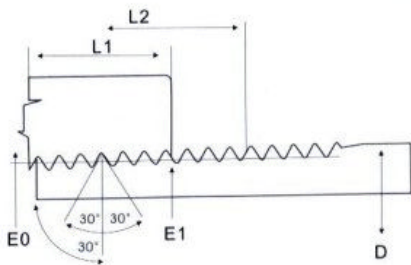
Class	Size	Ring No	A	B	C	D	E	F	H
Class 1500	1-1/2	R20	2.688	0.312	0.562	0.500	0.344	0.250	3.62
	2	R24	3.750	0.438	0.688	0.625	0.469	0.312	4.88
	2-1/2	R27	4.250	0.438	0.688	0.625	0.469	0.312	5.38
	3	R35	5.375	0.438	0.688	0.625	0.469	0.312	6.62
	4	R39	6.375	0.438	0.688	0.625	0.469	0.312	7.62
	5	R44	7.625	0.438	0.688	0.625	0.469	0.312	9.00
	6	R46	8.312	0.500	0.750	0.625	0.531	0.375	9.75
	8	R50	10.625	0.625	0.875	0.812	0.656	0.438	12.50
	10	R54	12.750	0.625	0.875	0.812	0.656	0.438	14.62
	12	R58	15.000	0.875	1.125	1.062	0.906	0.562	17.25
	14	R63	16.500	1.000	1.312	1.250	1.062	0.625	19.25
	16	R67	18.500	1.125	1.438	1.375	1.188	0.688	21.50
	18	R71	21.000	1.125	1.438	1.375	1.188	0.688	24.12
	20	R75	23.000	1.250	1.562	1.500	1.312	0.688	26.50
	24	R79	27.250	1.375	1.750	1.625	1.625	0.812	31.25

Scyew-Thread Dirnensions—ASME B1, 20, 1

Unit :mm

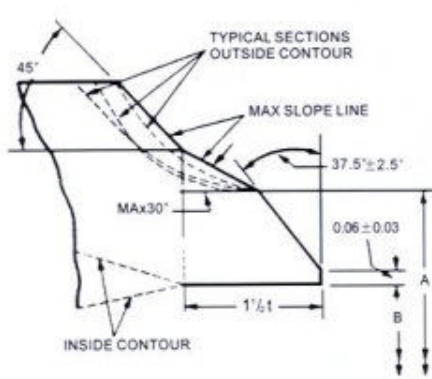
in	D		P	EO	E1	L1	L2	H
1/16	7.93	27	0.94	6.89	7.41	4.06	6.63	0.73
1/8	10.29	27	0.94	9.23	9.49	4.10	6.70	0.73
1/4	13.72	18	1.41	12.13	12.49	5.79	10.20	1.13
3/8	17.15	18	1.41	15.55	15.93	6.10	10.36	1.13
1/2	21.34	14	1.81	19.26	19.77	8.13	13.56	1.45
3/4	26.67	14	1.81	24.58	25.12	8.61	13.86	1.45
1	33.40	11.5	2.21	31.46	31.45	10.16	17.34	1.77
1-1/4	42.16	11.5	2.21	39.55	40.22	10.67	17.95	1.77
1-1/2	48.26	11.5	2.21	45.62	46.29	10.67	18.38	1.77
2	60.33	11.5	2.21	57.63	58.33	11.07	19.22	1.77

63

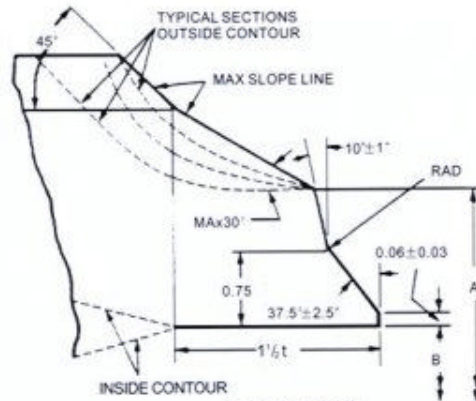


1.4

BUTT-WELDING ENDS FOR CAST STEEL VALVES ANSI B16.25

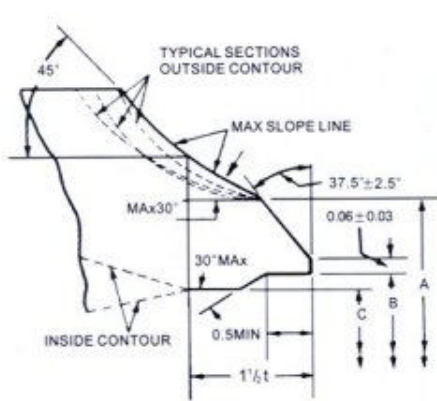


Plain Bevel
Used when nominal pipe wall thickness is 0.88" or less

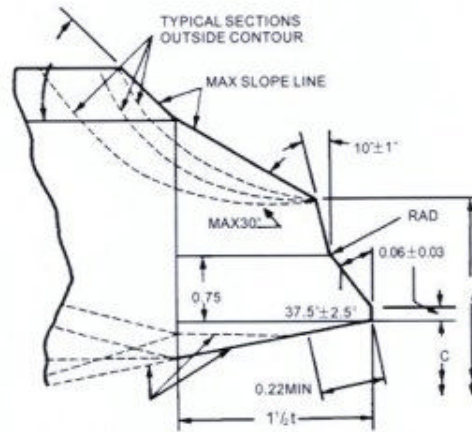


Compound Bevel
Used when nominal pipe wall thickness is greater than 0.88"

Welding End Details for Cast Components
For use without Backing Ring or with Split Backing Ring



Plain Bevel
Used when nominal pipe wall thickness is 0.88" or less



Compound Bevel
Used when nominal pipe wall thickness is greater than 0.88"

Welding End Details for Cast Components
For use with Continuous Rectangular or Tapered Backing Ring

B=Nominal Inside Diameter of Pipe
t=Nominal pipe Wall Thickness
C=B+0.25t-0.041

A=Outside Diameter(Cast Steel Valves)

Nominal pipe size	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
A-inches	3.59	4.62	5.68	6.78	8.78	10.94	12.97	14.25	16.25	18.28	20.31	24.38

Class 150 and 300 valves 12-inch and smaller are regularly machined as shown in two upper illustrations, unless otherwise specified, ends are bored to match schedule 40 pipe in valves 10-inch and smaller and Standard wall pipe (0.375" thick) in 12-inch valves.

Orders for class 150 and 300 butt-welding valves 14-inch and larger...and for Class 400 and higher valves in all sizes...must specify the inside diameter of the pipe with which the valves will be used, and the type of backing ring required.

Other types of weld end preparation can be furnished when specified.

BUTT-WELDING ENDS(ANSI B16.25)

Nominal Pipe Size	Schedule Number or Wall	Outside Diameter A		Nominal inside Diameter B		Machined Inside Diameter C		Nominal Wall Thickness t	
		inch	mm	inch	mm	inch	mm	inch	mm
2-1/2	40	2.88	73.0	2.469	62.6	2.479	62.97	0.203	5.2
	80			2.323	59.0	2.351	59.72	0.276	7.0
	160			2.125	54.0	2.178	55.32	0.375	9.5
	XXS			1.771	45.0	1.868	47.45	0.552	14.0
3	40	3.50	88.9	3.068	77.9	3.081	78.26	0.216	5.5
	80			2.900	73.7	2.934	74.52	0.300	7.6
	160			2.625	66.7	2.692	68.38	0.438	11.1
	XXS			2.300	58.5	2.409	61.19	0.600	15.2
3-1/2	40	4.00	101.6	3.548	90.2	3.564	90.53	0.226	5.7
	80			3.364	85.4	3.402	86.41	0.318	8.1
4	40	4.50	114.3	4.026	102.3	4.044	102.72	0.237	6.0
	80			3.826	97.1	3.869	98.27	0.337	8.6
	120			3.624	92.1	3.692	93.78	0.438	11.1
	160			3.438	87.3	3.530	89.66	0.531	13.5
	XXS			3.152	3.152	3.279	83.29	0.674	17.1
5	40	5.56	141.3	5.047	128.1	5.070	128.78	0.258	6.6
	80			4.813	122.3	4.866	123.60	0.375	9.5
	120			4.563	115.9	4.647	118.03	0.500	12.7
	160			4.313	109.5	4.428	112.47	0.625	15.9
	XXS			4.063	103.3	4.209	106.91	0.750	19.0
6	40	6.62	168.3	6.065	154.1	6.094	154.79	0.280	7.1
	80			5.761	146.3	5.828	148.03	0.432	11.0
	120			5.501	139.7	5.600	142.24	0.562	14.3
	160			5.187	131.7	5.326	135.28	0.719	18.3
	XXS			4.897	124.5	5.072	128.83	0.864	21.9
8	40	8.62	219.1	7.981	202.7	8.020	203.71	0.322	8.2
	60			7.813	198.5	7.873	199.97	0.406	10.3
	80			7.625	193.7	7.709	195.81	0.500	12.7
	100			7.437	188.9	7.544	191.62	0.594	15.1
	120			7.187	182.5	7.326	186.08	0.719	18.3
	140			7.001	177.9	7.163	181.94	0.812	20.6
	XXS			6.875	174.7	7.053	179.15	0.875	22.2
	160			6.813	173.1	6.998	177.75	0.906	23.0
10	40	10.75	273	10.020	254.4	10.070	255.78	0.365	9.3
	60			9.750	247.6	9.834	249.78	0.500	12.7
	80			9.562	242.8	9.670	245.62	0.594	15.1
	100			9.312	236.4	9.451	240.06	0.719	18.3
	120			9.062	230.2	9.232	234.49	0.844	21.4
	140			8.750	222.2	8.959	227.56	1.000	25.4
	160			8.500	215.8	8.740	222.00	1.125	28.6
12	STD	12.75	323.8	12.000	304.8	12.053	306.15	0.375	9.5
	40			11.938	303.2	11.999	304.77	0.406	10.3
	xs			11.750	298.4	11.834	300.58	0.500	12.7
	60			11.626	295.2	11.725	297.82	0.562	14.6
	80			11.374	288.8	11.505	292.23	0.688	17.5
	100			11.062	281.0	11.232	285.29	0.844	21.4
	120			10.750	273.0	10.959	278.36	1.000	25.4
	140			10.500	266.6	10.740	272.80	1.125	28.6
	160			10.126	257.2	10.413	264.49	1.312	33.2

BUTT-WELDING ENDS (ANSI B16.25)

Nominal Pipe Size	Schedule Number or Wall	Outside Diameter A		Nominal Inside Diameter B		Machined Inside Diameter C		Nominal Wall Thickness t	
		inch	mm	inch	mm	inch	mm	inch	mm
14	STD	14.00	355.6	13.250	336.6	13.303	337.90	0.375	9.5
	40			13.124	333.4	13.192	335.08	0.438	11.1
	XS			13.000	330.2	13.084	332.33	0.500	12.7
	60			12.812	325.4	12.920	328.17	0.594	15.1
	80			12.500	317.6	12.646	321.21	0.750	19.0
	100			12.124	308.0	12.318	312.88	0.938	23.8
	120			11.812	300.0	12.044	305.92	1.094	27.8
	160			11.500	292.0	11.771	298.98	1.250	31.8
16	STD	16.00	406.4	15.250	387.4	15.303	388.70	0.375	9.5
	40			15.000	381.0	15.084	383.13	0.500	12.7
	60			14.688	373.0	14.811	376.20	0.656	16.7
	80			14.312	363.6	14.482	367.84	0.844	21.4
	100			13.938	354.0	14.155	359.54	1.031	26.2
	120			13.562	344.4	13.826	351.18	1.219	31.0
	140			13.124	333.4	13.442	341.43	1.438	36.5
	160			12.814	325.4	13.170	334.52	1.594	40.5
18	STD	18.00	457.2	17.250	438.2	17.303	439.50	0.375	9.5
	XS			17.000	431.8	17.084	433.93	0.500	12.7
	40			16.876	428.6	16.975	431.17	0.562	14.3
	60			16.500	419.2	16.646	422.81	0.750	19.0
	80			16.124	409.6	16.318	414.48	0.938	23.8
	100			15.688	398.4	15.936	404.77	1.156	29.4
	120			15.250	387.4	15.553	395.05	1.375	34.9
	160			14.876	377.8	15.225	386.72	1.562	39.7
20	STD	20.00	508.0	19.250	489.0	19.303	490.30	0.375	9.5
	XS			19.000	482.6	19.084	484.73	0.500	12.7
	40			18.812	477.8	18.920	480.57	0.594	15.1
	60			18.376	466.8	18.538	470.87	0.812	20.6
	80			17.938	455.6	18.155	461.14	1.031	26.2
	100			17.438	443.0	17.717	450.01	1.281	32.5
	120			17.000	431.8	17.334	440.28	1.500	38.1
	160			16.500	419.2	16.896	429.16	1.750	44.4
22	STD	22.00	558.8	21.250	539.8	21.303	541.10	0.375	9.5
	XS			21.000	533.4	21.084	535.53	0.500	12.7
	60			20.250	514.4	20.428	518.87	0.875	22.2
	80			19.750	501.6	19.990	507.75	1.125	28.6
	100			19.250	488.8	19.553	496.65	1.375	35.0
	120			18.750	476.5	19.115	485.52	1.625	41.3
	140			18.250	463.2	18.678	474.42	1.872	47.6
	160			17.750	450.8	18.240	463.30	2.125	54.0
24	STD	24.00	609.6	23.250	590.6	23.303	591.90	0.375	9.5
	XS			23.000	584.2	23.084	586.33	0.500	12.7
	30			22.876	581.0	22.975	583.57	0.562	14.3
	40			22.624	574.6	22.755	577.98	0.688	17.5
	60			22.062	560.4	22.263	565.48	0.969	24.6
	80			21.562	547.6	21.826	554.38	1.219	31.0
	100			20.938	531.8	21.280	540.51	1.534	38.9
	160			19.312	490.6	19.857	504.37	2.344	59.5

CHEMICAL REQUIREMENTS

MECHANICAL PROPERTIES

ASTM STANDARD	COMPOSITION								MECHANICAL PROPERTIES			
	C	Mn	P	S	Si	Cr	Mo	Ni	R MPa	Smin MPa	Amin 0/0	Cmin 0/0
A 216 WCB	max.0.30	max.1.00	max.0.04	max.0.045	max.0.60	-	-	-	485/655	250	22	35
A 352 LCB	max.0.30	max.1.00	max.0.04	max.0.045	max.0.60	-	-	-	450/620	240	24	35
A 217 WC1	max.0.25	0.50-0.80	max.0.04	max.0.045	max.0.60	-	0.45-0.65	-	450/620	240	24	35
A 217 WC6	max.0.25	0.50-0.80	max.0.04	max.0.045	max.0.60	1.00-1.50	0.45-0.65	-	485/655	272	20	35
A 217 WC9	max.0.18	0.40-0.70	max.0.04	max.0.045	max.0.60	2.00-2.75	0.90-1.20	-	485/655	275	20	35
A 217 C5	max.0.20	0.40-0.70	max.0.04	max.0.045	max.0.75	4.00-6.50	0.45-0.65	-	620/795	415	18	35
A 217 C12	max.0.20	0.35-0.65	max.0.04	max.0.045	max.1.00	8.00-10.00	0.90-1.20	-	620/795	415	18	34
A 217 CA15	max.015	max.1.00	max.0.04	max.0.04	max.1.50	11.50-14.00	max.0.50	max.1.00	620/795	450	18	30
A 351 CF3	max.0.03	max.1.50	max.0.04	max.0.04	max.2.00	17300-21.00	max.0.50	8.00-12.00	485 min.	205	35	-
A 351 CF3M	max.0.03	max.1.50	max.0.04	max.0.04	max.1.50	17.00-21.00	2.00-3.00	9.00-13.00	485 min	205	30	-
A 351 CF8	max.0.08	max.1.50	max.0.04	max.0.04	max.2.00	18.00-21.00	max.0.50	8.00-11.00	485 min	205	35	-
A 351 CF8C(1)	max.0.08	max.1.50	max.0.04	max.0.04	max.2.00	18.00-21.00	max.0.50	9.00-12.00	485 min	205	30	-
A 351 CF8M	max.0.08	max.1.50	max.0.04	max.0.04	max.1.50	18.00-21.00	2.00-3.00	9.00-12.00	485 min	205	30	-
A 182 F6	max.0.15	max.1.00	max.0.04	max.0.03	max.1.00	11.50-13.50	-	max.0.40				
A 182 F304	max.0.08	max.2.00	max.0.04	max.0.03	max.1.00	18.00-20.00	-	8.00-11.00	515 min	205	30	50
A 182 F316	max.0.08	max.2.00	max.0.04	max.0.03	max.1.00	16.00-18.00	2.00-3.00	10.00-14.00	515 min	205	30	50
A 193 B7	0.37/0.49	0.65/1.10	Max.0.035	max.0.04	0.15/0.35	0.75/1.20	0.15/0.25					
A 193 B16	0.36/0.47	0.45/0.70	max.0.035	max.0.04	0.15/0.35	0.80/1.15	0.50/0.65	V:0.25/0.35				
A 193 B8	max.0.08	max.2.00	max.0.045	max.0.03	max.1.00	18.00-20.00		8.00-10.50				
A 320 L7	0.38/0.48	0.75/1.00	max.0.035	max.0.04	0.15/0.35	0.80/1.10	0.15/0.25					
A 307 B			max.0.04	max.0.05								
A 194 2H			max.0.04	max.0.05	max.0.40							
A194 4	min.0.40	max.1.00	max.0.035	max.0.04	0.15/0.35							
A 194 8	0.40/0.50	0.70/0.90	max.0.045	max.0.03	max.1.00	18.00-20.00	0.20/0.30	8.00-10.50				
	max.0.08	max.2.00										
	0.35	0.6-1.05	0.035									
A105	0.350	0.6-1.05	0.035	0.040	0.10-0.35	0.400	0.300	0.120	70	36	22	30
LF2	0.350	0.60-1.35	0.035	0.040	0.15-0.30	0.400	0.300	0.120	70-95	36	22	30
LF3	0.200	0.900	0.035	0.040	0.20-0.35	3.3-3.7	0.300	0.120	70-95	37.5	22	35
F11 Class2	0.10-0.20	0.30-0.80	0.040	0.040	0.50-1.00	-	1.00-1.50	2.00-2.50	70	40	20	30
F22 Class3	0.05-0.15	0.3-0.6	0.040	0.040	0.500	-	2.00-2.50	0.87-1.13	75	45	20	30

(1)Grade CF8C shall have a columbium content of not less 8 times the carbon content but not over 1.00%