



FLOATING
BALL VALVE

BA-1402C (EN)

ABOUT US

FBV Inc. is an ISO 9001 certified company specializing in manufacturing industrial valves including ball valves, gate valves, globe valves, check valves, plug valves and butterfly valves in carbon steel, stainless steel, duplex stainless and alloy materials. Our products conform to the latest industry standards in accordance to ANSI, ASME and API.

FBV today has over 600,000 square feet of manufacturing facilities. Through its conviction to provide only the finest quality products and services to match the need of our customers, FBV has now established itself as a serious player in the valve business.

FBV INC has sold worldwide in North America, Europe, South America, South Asia, Africa and the Middle East. We consider product quality and customer satisfaction as our highest priority. We look forward to new customer relationships by providing value, quality, customer service, honesty, integrity and the commitment to maintain product consistency with each and every order.

MISSION STATEMENT

We at FBV, Inc. commit to taking ACTION:

- Adopt the latest technology to take the product quality to the next level;
- Consistently provide on-time services to our customers;
- Train and develop talented people with strong work ethics to deliver effective performance;
- Improve and enhance engineering designs to ensure product performance;
- Optimize management systems and increase productivity;
- Never forget our customer and employee needs.



FLOATING BALL VALVE

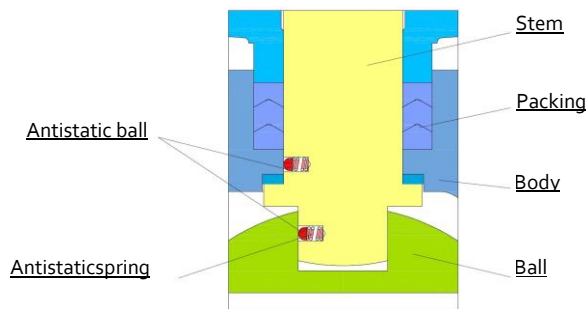
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FLOATING BALL VALVE



Because the ball and stem in a ball valve are suspended on non-metallic parts, i.e. the seat seal and stem seal, there is a possibility a static charge may build up on the stem-ball, a mechanical (antistatic metal spring and ball) is introduced in the design to maintain the metal-to-metal contact between the rotating ball/stem and the valve body which will ground any charges to the valve body.

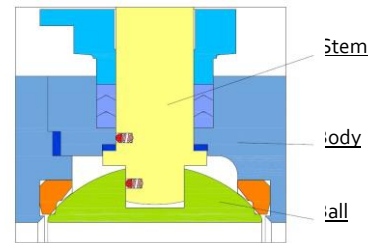


INTRODUCTION

A ball valve is a valve with a spherical disc, the part of the valve which controls the flow through it. The sphere has a hole, or port, through the middle so that when the port is in line with both ends of the valve, flow will occur. When the valve is closed, the hole is perpendicular to the ends of the valve, and flow is blocked.

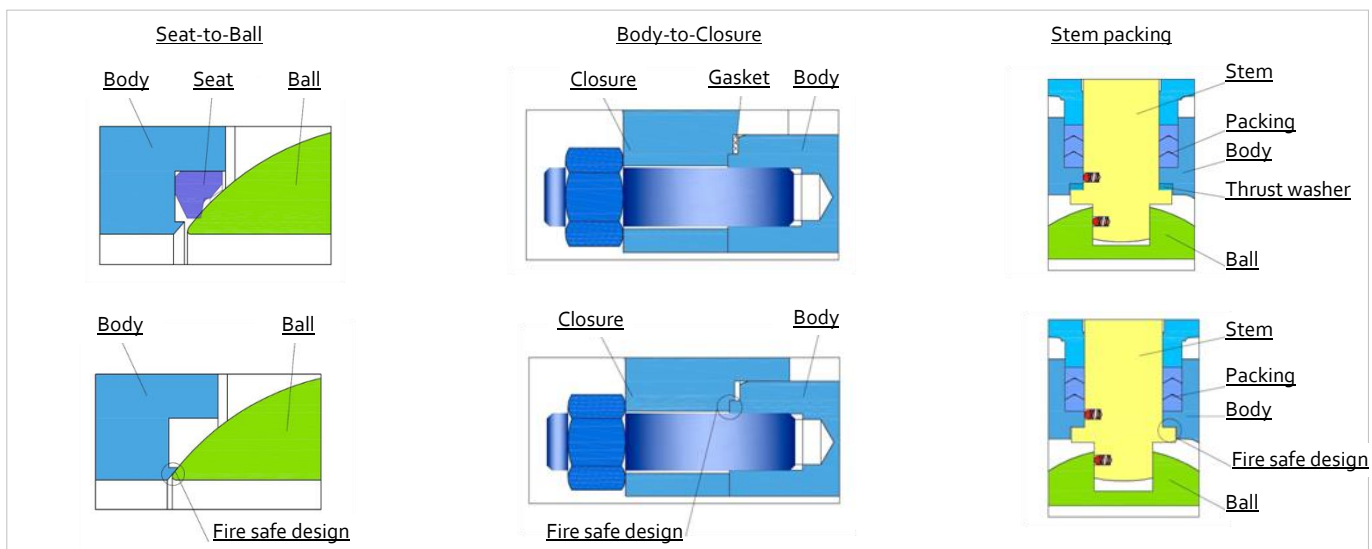
BLOWOUT PROOF STEM

The valve stem is made with a shoulder at the bottom end. It's securely retained by the valve body, to avoid that the stem, under certain operating conditions, accidentally blows out. Other designs are available on request.



FIRE SAFE DESIGN

During a fire, non-metallic soft material will be burnt, subsequently seat leakage or external leakage may occur and cause the fire to spread or contaminate the environment. FBV ball valves are fire tested in accordance with API 6FA or API 607 witnessed and certified by TUV SUD.



FLOATING BALL VALVE

SCOPE OF PRODUCTS

Legends: A – Available in Casting and Forging
 B – Available in Casting Only
 C – Available Forging Only
 D – Not Usually Required

Size in/mm	Class 150 PN 20	Class 300 PN 50	Class 600 PN 100	Class 800 PN 136	Class 900 PN 150	Class 1500 PN 250	Class 2500 PN 420
1/2 15	A	A	A	C	C	C	C
3/4 20	A	A	A	C	C	C	C
1 25	A	A	A	C	C	C	C
1 1/2 40	A	A	A	C	C	C	
2 50	A	A	A	C	C	C	
2.5 65	A	A	A				
3 80	A	A	AD				
4 100	A	A					
6 150	A	A					
8 150	AD						

FLOW COEFFICIENT

Nominal Size in/mm	Class 150 PN 20		Class 300 PN 50		Class 600 PN 100		Class 900 PN 150		Class 1500 PN 250	
	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv
1/2 15	25	21	25	18	20	17	16	14	16	14
3/4 20	56	48	56	40	40	34	34	29	34	29
1 25	95	81	95	69	64	54	55	47	55	47
1 1/2 40	308	262	308	223	308	262	165	140	165	140
2 50	500	425	430	361	370	315	320	272	320	272
3 80	1,360	1,156	1,100	983	1,020	867	920	782	820	697
4 100	2,500	2,125	2,000	1,806	1,850	1,573	1,760	1,496	1,600	1,360
6 150	4,060	3,451	4,056	2,933	3,410	2,899	4,300	3,655	4,150	3,528

CALCULATION OF FLOW COEFFICIENT

Flow coefficient Cv (Kv is the metric equivalent) is the rate of flow in gallon per minute with the pressure drop of 1 psi across the valve. The flow coefficients shown in the above table are determined with equations as follows:

For liquids:

$$Q_l = C_v(\Delta P/SG)^{1/2}$$

Where:

Q_l = Flow of liquid (gallon/minute)
 ΔP = Pressure drop in psi (P₁-P₂)
 SG = Specific gravity (1 for liquid)

For gases (non-critical):

$$Q_g = 61 \cdot C_v(P_2 \cdot P_1 / SG)^{1/2}$$

Where:

Q_g = Flow of gases (SFH at STP)
 P₂ = Outlet pressure (psi)
 P₁ = Inlet pressure (psi)
 SG = Specific gravity (1 for gas)

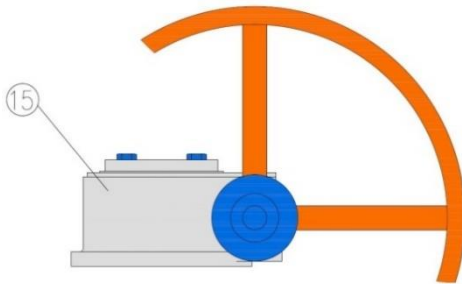
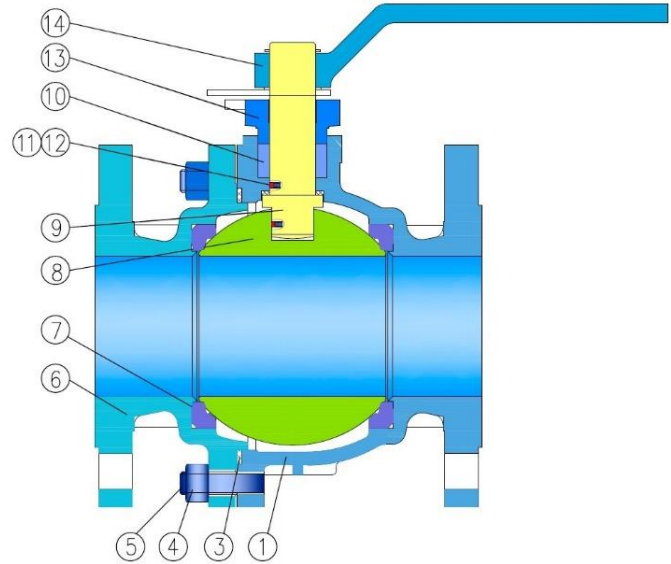
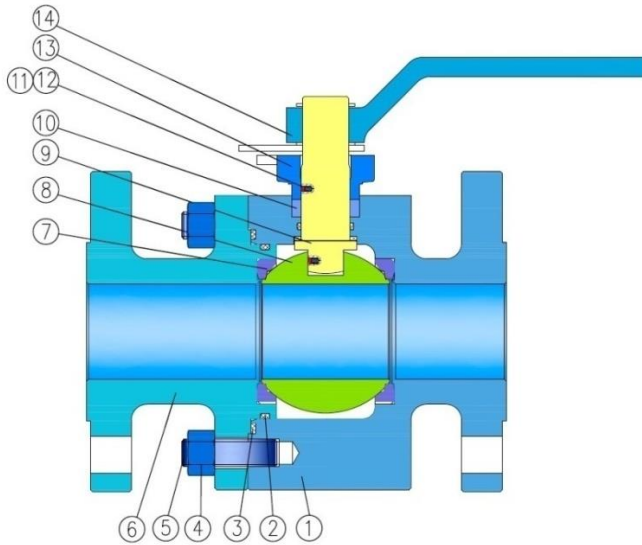
FLOATING BALL VALVE

OVERVIEW

2-PIECE SPLIT BODY

Forge Steel

Casting Steel



STANDARDS

Design & manufacture	API 6D, API 608, ISO 14313
Face-to-face	API 6D, ASME B16.10
End Dimension	ASME B16.5 (RF, RTJ) ASME B16.25 (BW)
Test & inspection	API 6D, API 598
Fire safe	API 6FA, API 607
Other	NACE MR 01-75, MR 0103

PART LIST

- | | |
|-----------|----------------------|
| ① Body | ⑨ Stem |
| ② O-ring | ⑩ Packing |
| ③ Gasket | ⑪ Anti-static Spring |
| ④ Nut | ⑫ Anti-static Ball |
| ⑤ Stud | ⑬ Gland Flange |
| ⑥ Closure | ⑭ Lever |
| ⑦ Seat | ⑮ Gearbox |
| ⑧ Ball | |

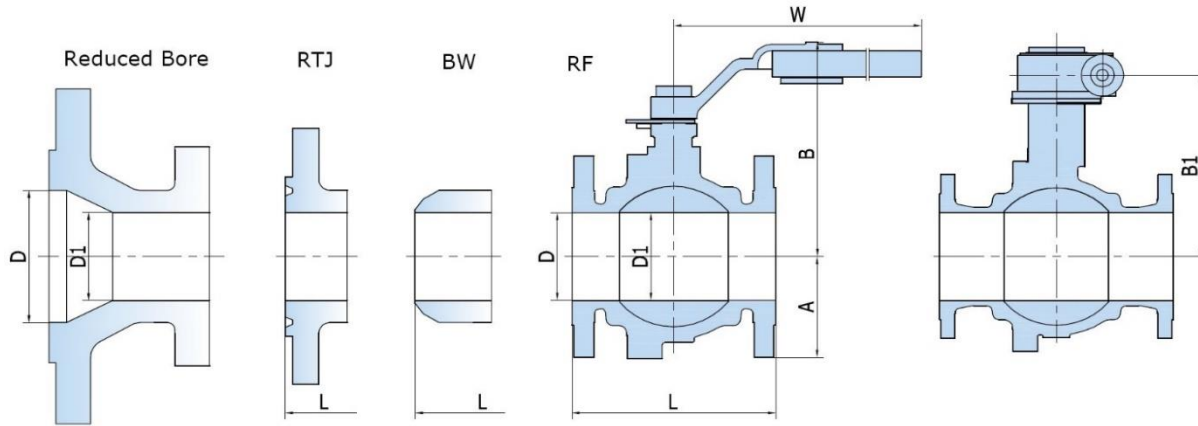
TYPICAL MATERIALS

Body/Closures	(Forging) A105, A182 F304, F304L, F316, F316L, F51, F53, A350 LF2, LF3, LF5, Inconel, Hastelloy, Monel (Casting) A216 WCB, A351 CF3, CF8, CF3M, CF8M, A352 LCB, LCC, LC2, A995 4A, 5A
Ball	CS+ENP, A182 F304, F304L, F316, F316L, F51, F53, CS/SS+TCC, CS/SS+Ni60
Seat retainer	CS+ENP, A182 F304, F304L, F316, F316L, F51, F53, CS/SS+TCC, CS/SS+Ni55
Seal Ring	PTFE, RPTFE, PCTFE, Devlon, PEEK
Stem	A182 F6a, F316, F51, A105+ENP, AISI 4140+ENP, 17-4PH, XM-19
Packing	Graphite, PTFE, RPTFE
O-ring	Viton, HNBR, FVMQ, AFLAS

FLOATING BALL VALVE

DIMENSIONS AND WEIGHTS

ASME CLASS 150 (PN 20)



ASME CLASS 150 (PN 20) FULL BORE

Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
½ 15	0.5 12.7	0.5 12.7	4.25 108	-	4.25 108	1.77 45	3.15 80	4.89 114	7.87 200	1.77 45	3.15 80	4.33 110	7.87 200	6 2.5	7 3
¾ 20	0.75 19.1	0.75 19.1	4.62 117	-	4.62 117	1.97 50	3.47 85	5.31 135	7.87 200	1.97 50	3.35 85	5.11 130	7.87 200	8 3.5	9 4
1 25	1 25.4	1 25.4	5 127	5.5 140	5 127	2.16 55	3.47 90	5.31 160	7.87 200	2.16 55	3.47 90	6.1 155	7.87 200	12 5.6	15 6.5
1¼ 32	1.25 31.8	1.25 31.8	5.5 140	6 153	5.5 140	2.36 60	4.33 110	6.70 170	9.84 250	2.36 60	4.33 110	6.5 165	9.84 250	14 6.2	21 9.4
1½ 40	1.5 38.1	1.5 38.1	6.5 165	7 178	6.5 165	2.48 63	4.33 110	7.10 180	13 330	2.48 63	4.33 110	6.97 177	13 330	16 7	17 12
2 50	1.94 49	1.94 49	7 178	7.5 191	7 178	3 76	5.9 150	7.5 191	13 330	3 76	5.6 142	7.32 186	13 330	29 13	35 16
2½ 65	2.44 62	2.44 62	7.5 191	8 203	7.5 191	3.45 85	6.1 155	7.83 200	13 330	3.45 85	5.9 150	7.67 195	13 330	35 16	44 20
3 80	2.91 74	2.91 74	8 203	8.5 216	8 203	3.74 95	6.3 160	8.46 215	13 330	3.74 95	6.1 155	8.1 206	13 330	49 22	64 29
4 100	3.94 100	3.94 100	9 229	9.5 242	9 229	4.33 110	8.27 210	10.04 255	18.11 460	4.33 110	7.67 195	9.5 242	18.11 460	83 37.5	106 48
6 150	5.91 150	5.91 150	15.5 394	16 407	15.5 394	6.70 170	12.2 310	12.87 327	30.3 770	6.70 170	11.22 285	12.44 316	30.3 770	216 98	304 138

ASME CLASS 150 (PN 20) REDUCED BORE

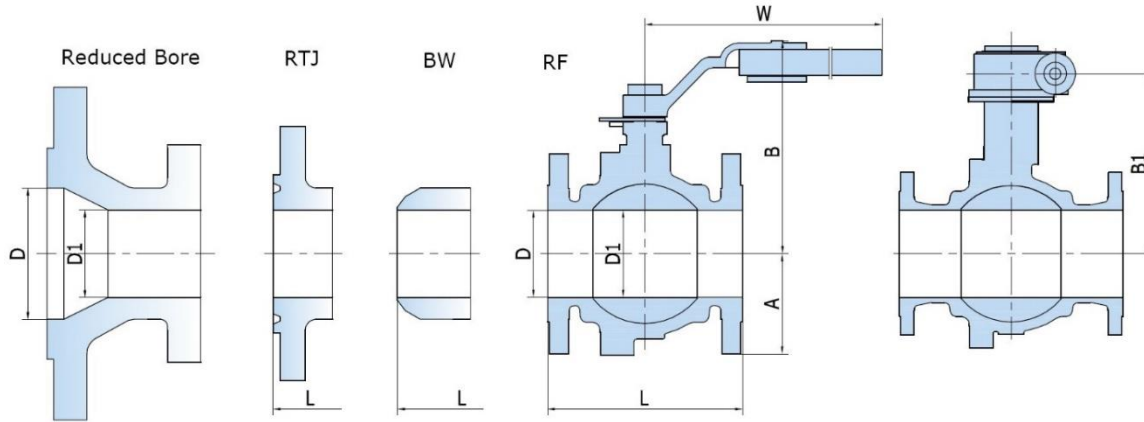
Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
½ 15	0.5 12.7	0.375 9.5	4.25 108	-	4.25 108	1.77 45	3.15 80	4.89 114	7.87 200	1.77 45	3.15 80	4.33 110	7.87 200	6 2.5	7 3
¾ 20	0.75 19.1	0.5 12.7	4.62 117	-	4.62 117	1.97 50	3.15 80	4.89 114	7.87 200	1.97 50	3.35 85	5.11 130	7.87 200	7 3	8 3.5
1 25	1 25.4	0.75 19.1	5 127	5.5 140	5 127	2.16 55	3.47 85	5.31 135	7.87 200	2.16 55	3.54 90	6.1 155	7.87 200	10 4.5	12 5.5
1¼ 32	1.25 31.8	1 25.4	5.5 140	6 153	5.5 140	2.36 60	3.54 90	6.3 160	7.87 200	2.36 60	4.33 110	6.5 165	9.84 250	12 5.5	16 7.2
1½ 40	1.5 38.1	1.25 31.8	6.5 165	7 178	6.5 165	2.48 63	4.33 110	7.10 170	13 250	2.48 63	4.33 110	6.97 177	13 330	14 6.3	18 8
2 50	1.94 49	1.5 38.1	7 178	7.5 191	7 178	3 76	4.53 115	7.10 180	13 330	3 76	5.6 142	7.32 186	13 330	20 9	30 13.5
2½ 65	2.44 62	1.94 49	7.5 191	8 203	7.5 191	3.45 85	5.9 150	7.5 191	13 330	3.45 85	5.9 150	7.67 195	13 330	32 14.5	39 17.5
3 80	2.91 74	1.94 49	8 203	8.5 216	8 203	3.74 95	6.1 155	7.83 200	13 330	3.74 95	6.1 155	8.1 206	13 330	42 19	51 23
4 100	3.94 100	2.91 74	9 229	9.5 242	9 229	4.33 110	6.3 160	8.46 215	13 330	4.33 110	7.67 195	9.5 242	18.11 460	66 30	85 38.5
6 150	5.91 150	3.94 100	15.5 394	16 407	15.5 394	6.70 170	12.2 310	12.87 327	30.3 770	6.70 170	11.22 285	12.44 316	30.3 770	133 60	205 93
8 201	8 201	5.91 150	18 457	18.5 470	18 457	6.73 175	12.2 310	12.87 327	30.3 770	6.73 175	11.22 285	12.44 316	30.3 770	234 106	289 131

1. The dimension and weights are for reference only and subject to change without notice.
2. Contact sales representative if further information is needed.

FLOATING BALL VALVE

DIMENSIONS AND WEIGHTS

ASME CLASS 300 (PN 50)



ASME CLASS 300 (PN 50) FULL BORE

Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
1/2 15	0.5 12.7	0.5 12.7	5.5 140	5.94 151	5.5 140	1.77 45	3.15 80	4.89 114	7.87 200	1.77 45	3.15 80	4.33 110	7.87 200	8 3.5	9 4
3/4 20	0.75 19.1	0.75 19.1	5.98 152	6.61 168	6 152	1.97 50	3.47 85	5.31 135	7.87 200	1.97 50	3.35 85	5.11 130	7.87 200	9 4	13 6
1 25	1 25.4	1 25.4	6.5 165	7.13 181	6.5 165	2.16 55	3.54 90	6.3 160	7.87 200	2.16 55	3.54 90	6.1 155	7.87 200	12 5.3	18 8
1 1/4 32	1.25 31.8	1.25 31.8	7 178	7.64 194	7 178	2.36 60	4.33 110	6.70 170	9.84 250	2.36 60	4.33 110	6.5 165	9.84 250	21 9.5	3 13.5
1 1/2 40	1.5 38.1	1.5 38.1	7.5 190	8.11 206	7.5 190	2.48 63	4.53 115	7.10 180	13 330	2.48 63	4.53 115	6.97 177	13 330	29 13	140 8
2 50	1.94 49	1.94 49	8.5 216	9.13 232	8.5 216	3 76	5.9 150	7.5 191	13 330	3 76	5.6 142	7.32 186	13 330	38 17	51 23
2 1/2 65	2.44 62	2.44 62	9.5 241	10.12 257	9.5 241	3.45 85	6.1 155	7.83 200	13 330	3.45 85	5.9 150	7.67 195	13 330	55 25	62 28
3 80	2.91 74	2.91 74	11.1 282	11.73 298	11.1 282	3.74 95	6.3 160	8.46 215	22.05 560	3.74 95	6.1 155	8.1 206	22.05 560	77 35	93 42
4 100	3.94 100	3.94 100	12 305	12.64 321	12 305	4.33 110	8.27 210	10.04 255	22.05 560	4.33 110	7.67 195	9.5 242	22.05 560	117 53	148 67
6 150	5.91 150	5.91 150	15.87 403	16.5 419	15.87 403	6.70 170	12.2 310	12.87 327	31.8 800	6.70 170	11.22 285	12.44 316	31.8 800	249 113	331 150

ASME CLASS 300 (PN 50) REDUCED BORE

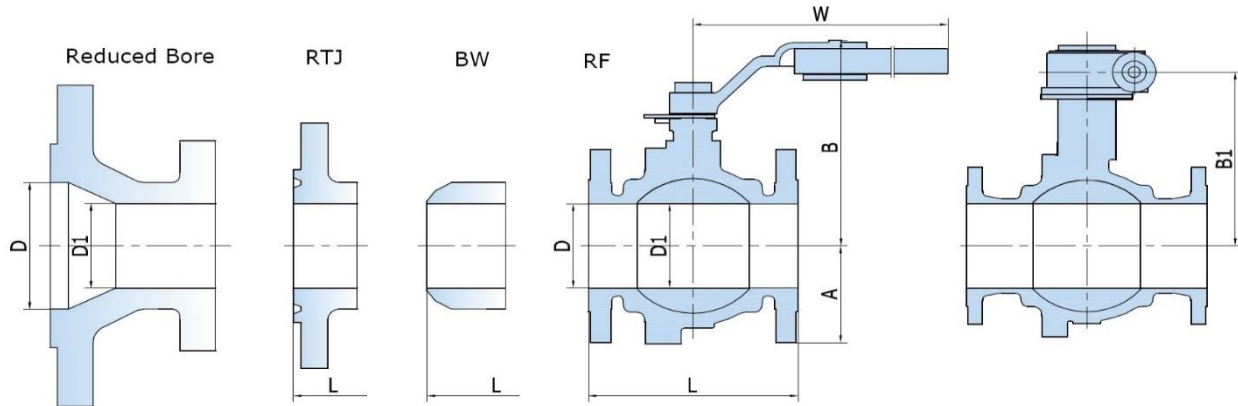
Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
1/2 15	0.5 12.7	0.375 9.5	4.25 108	-	4.25 108	1.77 45	3.15 80	4.89 114	7.87 200	1.77 45	3.15 80	4.33 110	7.87 200	7 3.3	9 4.2
3/4 20	0.75 19.1	0.5 12.7	4.62 117	-	4.62 117	1.97 50	3.15 80	4.89 114	7.87 200	1.97 50	3.35 85	5.11 130	7.87 200	8 3.8	11 5
1 25	1 25.4	0.75 19.1	5 127	5.5 140	5 127	2.16 55	3.47 85	5.31 135	7.87 200	2.16 55	3.54 90	6.1 155	7.87 200	10 4.5	15 7
1 1/4 32	1.25 31.8	1 25.4	5.5 140	6 153	5.5 140	2.36 60	3.54 90	6.3 160	7.87 200	2.36 60	4.33 110	6.5 165	9.84 250	17 7.5	20 9
1 1/2 40	1.5 38.1	1.25 31.8	6.5 165	7 178	6.5 165	2.48 63	4.33 110	6.70 170	9.84 250	2.48 63	4.53 115	6.97 177	13 330	20 9	24 11
2 50	1.94 49	1.5 38.1	7 178	7.5 191	7 178	3 76	4.53 115	7.10 180	13 330	3 76	5.6 142	7.32 186	13 330	33 15	44 20
2 1/2 65	2.44 62	1.94 49	7.5 191	8 203	7.5 191	3.45 85	5.9 150	7.5 191	13 330	3.45 85	5.9 150	7.67 195	13 330	51 23	55 25
3 80	2.91 74	1.94 49	8 203	8.5 216	8 203	3.74 95	6.1 155	7.83 200	13 330	3.74 95	6.1 155	8.1 206	13 330	71 32	77 35
4 100	3.94 100	2.91 74	9 229	9.5 242	9 229	4.33 110	6.3 160	8.46 215	13 330	4.33 110	7.67 195	9.5 242	18.11 460	106 48	128 58
6 150	5.91 150	3.94 100	15.5 394	16 407	15.5 394	6.70 170	12.2 310	12.87 327	30.3 770	6.70 170	11.22 285	12.44 316	30.3 770	187 85	238 108
8 201	8 201	5.91 150	18 457	18.5 470	18 457	6.73 175	12.2 310	12.87 327	30.3 770	6.73 175	11.22 285	12.44 316	30.3 770	297 135	419 190

1. The dimension and weights are for reference only and subject to change without notice.
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FLOATING BALL VALVE

DIMENSIONS AND WEIGHTS

ASME CLASS 600 (PN 100)



ASME CLASS 600 (PN 100) FULL BORE

Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
1/2	0.5	0.5	16.5	6.42	16.5	1.89	3.15	4.69	7.87	1.89	2.95	4.69	7.87	6	8
15	12.7	12.7	65	163	65	48	80	119	200	48	75	119	200	2.8	3.8
3/4	0.75	0.75	7.48	7.48	7.48	2.28	3.35	5.51	7.87	2.28	3.15	5.51	7.87	12	14
20	19.1	19.1	190	190	190	58	85	140	200	58	80	140	200	5.3	6.2
1	1	1	8.5	8.5	8.5	2.48	3.54	6.69	7.87	2.48	3.35	6.69	7.87	18	25
25	25.4	25.4	216	216	216	63	90	170	200	63	85	170	200	8	11.5
1 1/4	1.25	1.25	9.02	9.02	9.02	2.87	4.33	7.09	11.81	2.87	4.13	7.09	11.81	25	33
32	31.8	31.8	229	229	229	73	110	180	300	73	105	180	300	11	15
1 1/2	1.5	1.5	9.49	9.49	9.49	3.07	4.53	7.48	13	3.07	4.33	7.48	13	230	40
40	38.1	38.1	241	241	241	78	115	190	330	78	110	190	330	13.6	18
2	1.94	1.94	11.5	11.61	11.5	3.23	5.91	7.87	13	3.23	5.71	7.87	13	42	66
50	49	49	292	295	292	82	150	200	330	82	145	200	330	19	30
2 1/2	2.44	2.44	12.99	13.11	12.99	3.74	6.5	8.46	22.05	3.74	6.3	8.46	22.05	71	106
65	62	62	330	333	330	95	165	215	560	95	160	215	560	32	48
3	2.91	2.91	14.02	14.13	14.02	4.33	7.28	8.9	31.5	4.33	7.09	8.9	31.5	113	144
80	74	74	356	359	356	110	185	226	800	110	180	226	800	51	65

ASME CLASS 600 (PN 100) REDUCED BORE

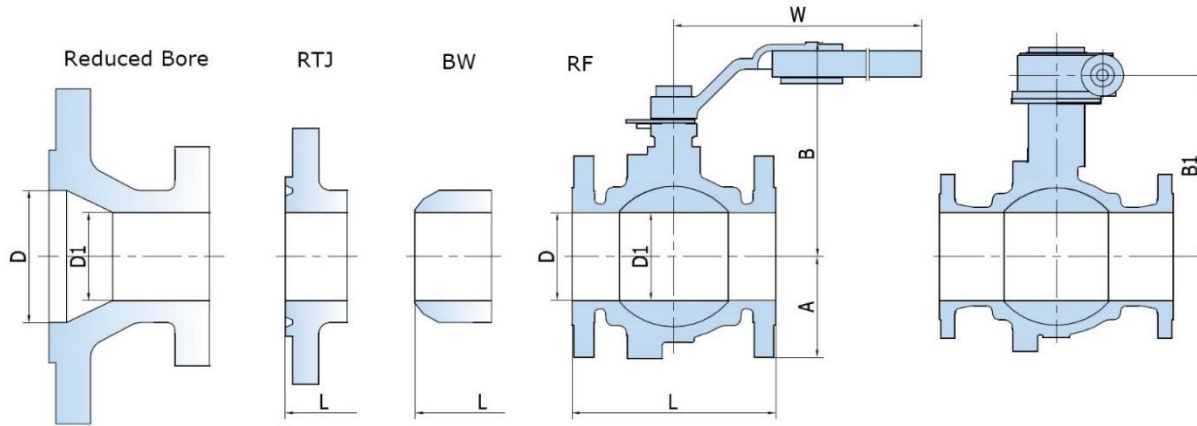
Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
1/2	0.5	0.375	16.5	6.42	16.5	1.89	3.15	4.53	7.87	1.89	2.95	4.43	7.87	9	10
15	12.7	9.5	65	163	65	48	80	115	200	48	75	110	200	4	4.5
3/4	0.75	0.5	7.48	7.48	7.48	2.28	3.35	4.69	7.87	2.28	3.15	4.53	7.87	10	11
20	19.1	12.7	190	190	190	58	85	119	200	58	80	115	200	4.5	4.8
1	1	0.75	8.5	8.5	8.5	2.48	3.54	5.51	7.87	2.48	3.35	5.31	7.87	14	20
25	25.4	19.1	216	216	216	63	90	140	200	63	85	135	200	6.5	9
1 1/4	1.25	1	9.02	9.02	9.02	2.87	4.33	6.69	7.87	2.87	4.13	6.5	7.87	19	28
32	31.8	25.4	229	229	229	73	110	170	200	73	105	165	200	8.5	12.5
1 1/2	1.5	1.25	9.49	9.49	9.49	3.07	4.53	7.09	11.81	3.07	4.33	6.89	11.81	23	33
40	38.1	31.8	241	241	241	78	115	180	300	78	110	175	300	10.5	15
2	1.94	1.5	11.5	11.61	11.5	3.23	5.91	7.48	13	3.23	5.71	7.28	13	35	46
50	49	38.1	292	295	292	82	150	190	330	82	145	185	330	16	21
2 1/2	2.44	1.94	12.99	13.11	12.99	3.74	6.5	7.87	13	3.74	6.3	7.68	13	58	66
65	62	49	330	333	330	95	165	200	330	95	160	195	330	26.5	30
3	2.91	1.94	14.02	14.13	14.02	1.89	7.28	8.46	22.05	4.33	7.09	8.27	22.05	84	79
80	74	49	356	359	356	48	185	215	560	110	180	210	560	38	36
4	3.94	2.91	17	17.13	17	5.43	16.93	8.9	31.5	5.43	16.93	8.66	31.5	137	174
100	100	74	432	435	432	138	230	226	800	138	230	220	800	62	79

1. The dimension and weights are for reference only and subject to change without notice.
2. Contact sales representative if further information is needed.

FLOATING BALL VALVE

DIMENSIONS AND WEIGHTS

ASME CLASS 900/1500 (PN 150/2500)



ASME CLASS 900/1500 (PN 150/250) FULL BORE

Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
1/2 15	0.5 12.7	0.5 12.7	8.5 216	8.5 216	8.5 216	-	-	-	-	2.36 60	2.76 70	-	7.87 200	-	20 9
3/4 20	0.75 19.1	0.75 19.1	9.02 229	9.02 229	9.02 229	-	-	-	-	2.56 65	3.03 77	-	9.84 250	-	24 11
1 25	1 25.4	1 25.4	10 254	10 254	10 254	-	-	-	-	2.95 75	3.35 85	-	9.84 250	-	42 19
1 1/4 32	1.25 31.8	1.25 31.8	10.98 279	10.98 279	10.98 279	-	-	-	-	3.15 80	3.74 95	-	13 330	-	59 27
1 1/2 40	1.5 38.1	1.5 38.1	12.01 305	12.01 305	12.01 305	-	-	-	-	3.54 90	4.33 110	-	19.69 500	-	71 32
2 50	1.94 49	1.94 49	14.49 368	14.61 371	14.49 368	-	-	-	-	4.25 108	5.31 135	-	24 610	-	121 55

ASME CLASS 900/1500 (PN 150/250) REDUCED BORE

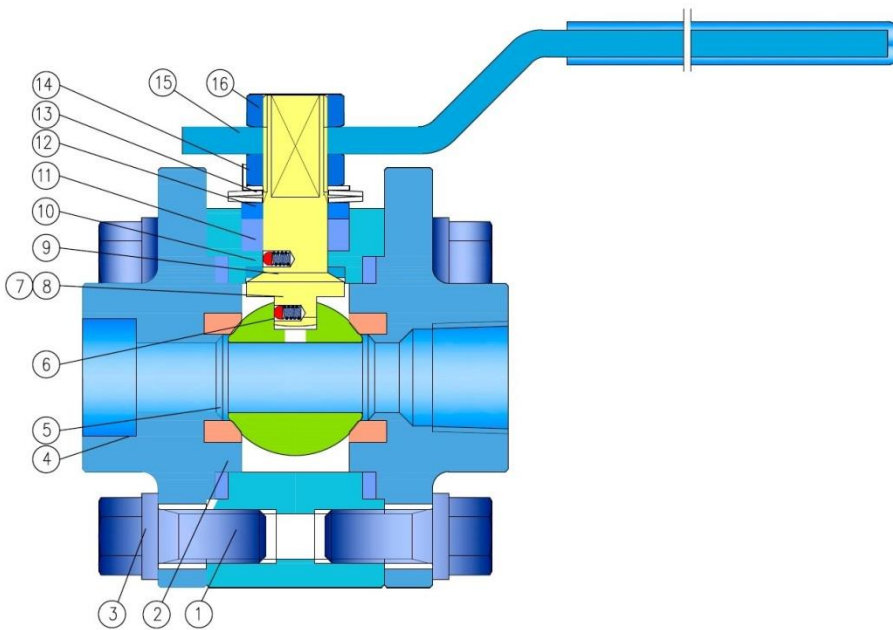
Size in/mm	D	D1	L			Casting				Forging				Weight	
			RF	RTJ	BW	A	B	B1	W	A	B	B1	W	Casting (lb/kg)	Forging (lb/kg)
1/2 15	0.5 12.7	0.375 9.5	8.5 216	8.5 216	8.5 216	-	-	-	-	2.36 60	2.76 70	-	7.87 200	-	16.5 7.5
3/4 20	0.75 19.1	0.5 12.7	9.02 229	9.02 229	9.02 229	-	-	-	-	2.36 60	2.76 70	-	7.87 200	-	20 9
1 25	1 25.4	0.75 19.1	10 254	10 254	10 254	-	-	-	-	2.56 65	3.03 77	-	9.84 250	-	29 13
1 1/4 32	1.25 31.8	1 25.4	10.98 279	10.98 279	10.98 279	-	-	-	-	2.95 75	3.35 85	-	9.84 250	-	40 18
1 1/2 40	1.5 38.1	1.25 31.8	12.01 305	12.01 305	12.01 305	-	-	-	-	3.15 80	3.74 95	-	13 330	-	53 24
2 50	1.94 49	1.5 38.1	14.49 368	14.61 371	14.49 368	-	-	-	-	3.54 90	4.33 110	-	19.69 500	-	95 43
2 1/2 65	2.44 62	1.94 49	16.5 419	16.61 422	16.5 419	-	-	-	-	4.25 108	5.31 135	-	24 610	-	137 62

1. The dimension and weights are for reference only and subject to change without notice.
2. Contact sales representative if further information is needed.

FLOATING BALL VALVE

OVERVIEW

3-PIECE SPLIT BODY



PART LIST

- ① Body
- ② Gasket
- ③ Bolt
- ④ Closure
- ⑤ Seat
- ⑥ Ball
- ⑦ Anti-static Spring
- ⑧ Anti-static Ball
- ⑨ Stem
- ⑩ Thrust Washer
- ⑪ Packing
- ⑫ Packing Gland
- ⑬ Belleville Spring
- ⑭ Stopper Washer
- ⑮ Lever
- ⑯ Nut

Floating Ball with 3 Piece design is provided in forged material in long pattern and short pattern.

Short Pattern: Mainly applies for soft seated with lever operation.

Long Pattern: Can be applied for metal seat, stem extension, or bare stem, or actuated ball valves, or full welded and butt welded;

STANDARDS

Design & manufacture	API 608, ISO 17292, ASME B16.34,
Face-to-face	MFG' STD
End Dimension	ASME B1.20.1 (NPT) ASME B16.11 (SW) ASME B16.25 (BW) Or ASME B36.10(BW)
Test & inspection	API 598
Fire safe	API 6FA, API 607
Other	NACE MR 01-75, MR 0103

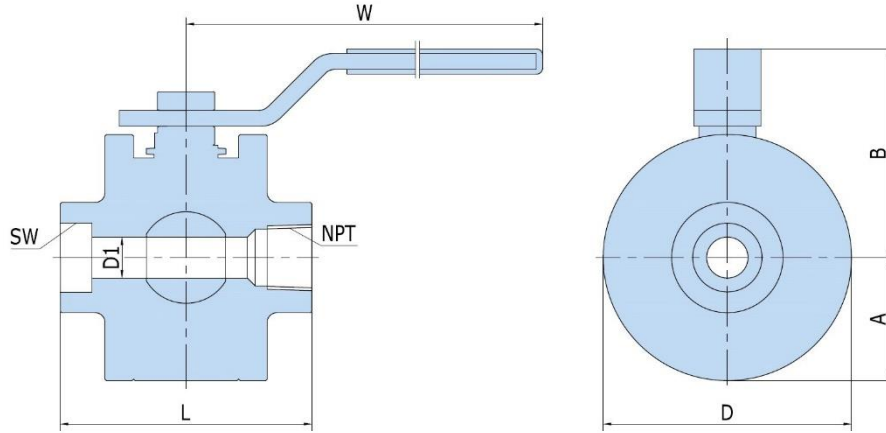
TYPICAL MATERIALS

Body/Closures	(Forging) A105, A182 F304, F304L, F316, F316L, F51, F53, A350 LF2, LF3, LF5, Inconel, Hastelloy, Monel
Ball	A182 F304, F304L, F316, F316L, F51, F53, CS/SS+TCC, CS/SS+Ni60
Seal Ring	PTFE, RPTFE, PCTFE, Devlon, PEEK
Stem	F316, F51, 17-4PH, XM-19
Packing	Graphite, PTFE, RPTFE
O-ring	Viton, HNBR, FVMQ, AFLAS

FLOATING BALL VALVE

DIMENSIONS AND WEIGHT (SW/NPT - Short Pattern)

ASME CLASS 800/ CLASS1500



ASME CLASS 800 (PN136)

Size in/mm	D1	L		Forging			Weight
		SW / NPT	A	B	D	W	SW / NPT (lb/kg)
1/2	0.5	3.11	1.57	2.56	3.15	7.87	6.5
15	12.7	79	40	65	80	200	2.9
3/4	0.75	3.62	1.67	3.03	3.35	7.87	8.6
20	19.1	92	42.5	77	85	200	3.9
1	1	4.37	1.87	3.35	3.7	7.87	12
25	25.4	111	47	85	94	200	5.6
1 1/4	1.25	5.51	2.2	3.74	4.33	11.81	20
32	31.8	140	56	95	110	300	9
1 1/2	1.5	5.51	2.42	4.33	4.48	11.81	26
40	38.1	140	61.5	110	123	300	11.8
2	1.94	5.98	2.93	5.31	5.87	13	41
50	49	152	74.5	135	149	330	18.5

1. Face to Face dimension for pressure rating CL150~CL600 SW/NPT ball valve can refer to the dimension specified on table above for CL800.
2. The face to face and outline dimension for reduce ball valve are the same as full bore ball valve, just the flow port dimension has been reduced.
3. Short Pattern only applies to the SW/NPT soft seat ball valve with lever operation.

ASME CLASS1500 (PN 250)

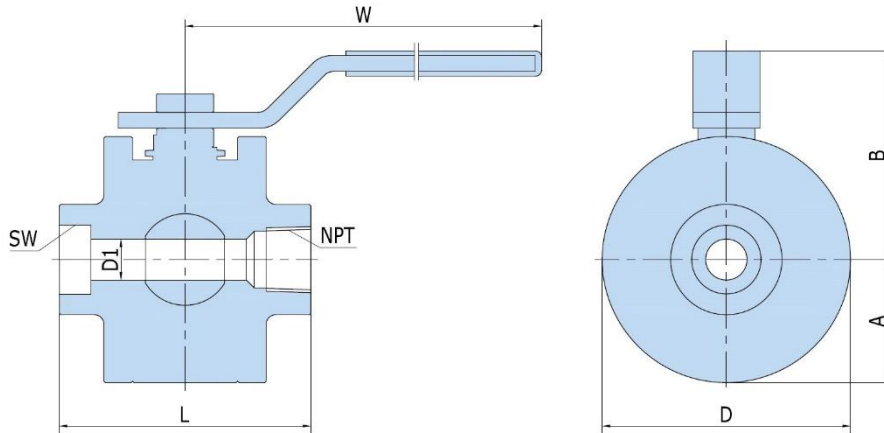
Size in/mm	D	L		Forging			Weight
		SW / NPT	A	B	D	W	SW / NPT (lb/kg)
1/2	0.5	3.62	1.65	3.11	3.31	7.87	9
15	12.7	92	42	79	84	200	3.9
3/4	0.75	4.37	1.93	3.46	3.74	9.84	13
20	19.1	111	49	88	95	250	5.9
1	1	5	2.09	3.54	4.17	9.84	18
25	25.4	127	53	90	106	250	8.3
1 1/4	1.25	5.51	2.44	4.53	4.33	13	30
32	31.8	140	62	115	110	330	13.5
1 1/2	1.5	5.98	2.76	5.12	5.51	19.3	38
40	38.1	152	70	130	140	490	17
2	1.94	7.01	3.31	5.91	6.61	24	63
50	49	178	84	150	168	610	28.3

1. The face to face and outline dimension for reduce ball valve are the same as full bore ball valve, just the flow port dimension has been reduced.
2. Short Pattern only applies to the SW/NPT soft seat ball valve with lever operation.

FLOATING BALL VALVE

DIMENSIONS AND WEIGHT (SW/NPT - Long Pattern)

ASME CLASS 800/CLASS1500



ASME CLASS 800 (PN136)

Size in/mm	D1	L SW / NPT	Forging				Weight SW / NPT (lb/kg)
			A	B	D	W	
1/2	0.5	4.25	1.89	3.44	3.78	7.87	12
15	12.7	108	48	87.5	96	200	5.5
3/4	0.75	4.61	2.07	3.54	4.13	7.87	13
20	19.1	117	52.5	90	105	200	5.8
1	1	5	2.17	3.64	4.33	7.87	15
25	25.4	127	55	92.5	110	200	6.7
1 1/4	1.25	5.51	2.64	5.12	5.28	11.81	29
32	31.8	140	67	130	134	300	13
1 1/2	1.5	6.5	3.05	5.91	6.1	11.81	36
40	38.1	165	77.5	150	155	300	16
2	1.94	7.01	3.25	6.69	6.5	13	51
50	49	178	82.5	170	165	330	23

1. Face to Face dimension for pressure rating CL150~CL600 SW/NPT ball valve can refer to the dimension specified on table above for CL800.
2. The face to face and outline dimension for reduce ball valve are the same as full bore ball valve.
3. Long pattern can be applied to the ball valve with structure of metal seat, stem extension, or bare stem, or actuated ball valves, or full welded and butt welded.

ASME CLASS1500 (PN 250)

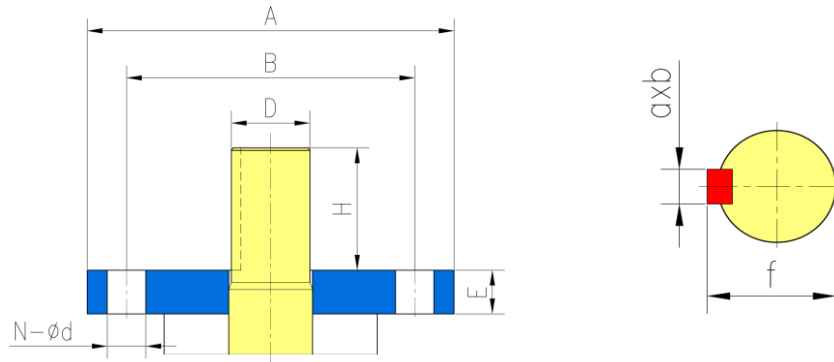
Size in/mm	D	L SW / NPT	Forging				Weight SW / NPT (lb/kg)
			A	B	D	W	
1/2	0.5	5.51	2.24	3.74	4.49	7.87	18
15	12.7	140	57	95	114	200	8
3/4	0.75	5.98	2.48	4.02	4.96	9.84	2
20	19.1	152	63	102	126	250	11
1	1	6.5	2.56	4.37	5.12	9.84	29
25	25.4	165	65	111	130	250	13
1 1/4	1.25	7	3.07	5.12	5.71	13	39
32	31.8	178	78	130	145	330	17.5
1 1/2	1.5	7.48	3.43	5.91	6.3	19.3	46
40	38.1	190	87	150	160	490	21
2	1.94	8.5	3.54	6.69	7.09	24	83
50	49	216	90	170	180	610	37.5

1. Face to Face dimension for pressure rating CL900 SW/NPT ball valve can refer to the dimension specified on table above for CL1500.
2. The face to face and outline dimension for reduce ball valve are the same as full bore ball valve.
3. Long pattern can be applied to the ball valve with structure of metal seat, stem extension, or bare stem, or actuated ball valves, or full welded and butt welded.

FLOATING BALL VALVE

TOP MOUNTING DIMENSIONS AND TORQUE

NPS 1/2-6 (DN 15-150)

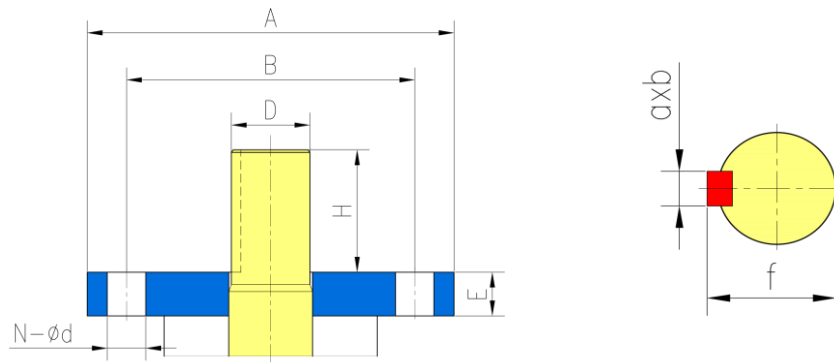


Size in/mm	Rating Class/PN	Torque ⁽¹⁾ ft-lb/N-m	ISO F#	A	B	D	E	n- Φ d ⁽²⁾	H	Drive Key a x b	f
1/2 15	150	15	F04	2.13	1.65	0.47	0.2	4- Φ 0.24	0.79	0.16 x 0.16	0.53
	20	20		54	42	12	5	4- Φ 6	20	4 x 4	13.5
	300	18		2.13	1.65	0.47	0.2	4- Φ 0.24	0.79	0.16 x 0.16	0.53
	50	25		54	42	12	5	4- Φ 6	20	4 x 4	13.5
	600	22	F05	2.56	1.97	0.47	0.2	4- Φ 0.31	0.79	0.16 x 0.16	0.53
	100	30		65	50	12	5	4- Φ 8	20	4 x 4	13.5
	800/900	26		2.56	1.97	0.47	0.2	4- Φ 0.31	0.79	0.16 x 0.16	0.53
	136/150	35		65	50	12	5	4- Φ 8	20	4 x 4	13.5
1500	30	F05	2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71	
250	40		65	50	16	5	4- Φ 8	30	5 x 5	18	
2500	37	F05	2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71	
420	50		65	50	16	5	4- Φ 8	30	5 x 5	18	
3/4 20	150	22	F04	2.13	1.65	0.55	0.2	4- Φ 0.24	1	0.2 x 0.2	0.63
	20	30		54	42	14	5	4- Φ 6	25	5 x 5	26
	300	26		2.13	1.65	0.55	0.2	4- Φ 0.24	1	0.2 x 0.2	0.63
	50	35		54	42	14	5	4- Φ 6	25	5 x 5	26
	600	30	F05	2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71
	100	40		65	50	16	5	4- Φ 8	30	5 x 5	18
	800/900	33		2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71
	136/150	45		65	50	16	5	4- Φ 8	30	5 x 5	18
1500	37	F05	2.56	1.97	0.79	0.2	4- Φ 0.31	1.18	0.24 x 0.24	0.93	
250	50		65	50	20	5	4- Φ 8	30	6 x 6	23.5	
2500	44	F05	2.56	1.97	0.79	0.2	4- Φ 0.31	1.18	0.24 x 0.24	0.93	
420	60		65	50	20	5	4- Φ 8	30	6 x 6	23.5	
1 25	150	30	F05	2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71
	20	40		65	50	16	5	4- Φ 8	30	5 x 5	18
	300	37		2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71
	50	50		65	50	16	5	4- Φ 8	30	5 x 5	18
	600	44	F05	2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71
	100	60		65	50	16	5	4- Φ 8	30	5 x 5	18
	800/900	52		2.56	1.97	0.63	0.2	4- Φ 0.31	1.18	0.2 x 0.2	0.71
	136/150	70		65	50	16	5	4- Φ 8	30	5 x 5	18
1500	59	F07	3.54	2.76	0.79	0.24	4- Φ 0.39	1.18	0.24 x 0.24	0.93	
250	80		90	70	20	6	4- Φ 10	30	6 x 6	23.5	
2500	66	F10	4.92	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06	
420	90		125	102	24	6	4- Φ 12	40	8 x 7	27	
1-1/4 32	150	37	F05	2.56	1.97	0.79	0.2	4- Φ 0.31	1.18	0.24 x 0.24	0.93
	20	50		65	50	20	5	4- Φ 8	30	6 x 6	23.5
	300	44		2.56	1.97	0.79	0.2	4- Φ 0.31	1.18	0.24 x 0.24	0.93
	50	60		65	50	20	5	4- Φ 8	30	6 x 6	23.5
	600	74	F07	3.54	2.76	0.79	0.24	4- Φ 0.39	1.18	0.24 x 0.24	0.93
	100	100		90	70	20	6	4- Φ 10	30	6 x 6	23.5
	800/900	111		3.54	2.76	0.79	0.24	4- Φ 0.39	1.18	0.24 x 0.24	0.93
	136/150	150		90	70	20	6	4- Φ 10	30	6 x 6	23.5
1500	148	F10	4.92	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06	
250	200		125	102	24	6	4- Φ 12	40	8 x 7	27	

FLOATING BALL VALVE

TOP MOUNTING DIMENSIONS AND TORQUE

NPS 1/2-6 (DN 15-150)



Size in/mm	Rating Class/PN	Torque ⁽¹⁾ ft-lb/N-m	ISO F#	A	B	D	E	n- Φ d ⁽²⁾	H	Drive Key a x b	f
1-1/2 40	150	37	F05	2.56	1.97	0.79	0.2	4- Φ 0.31	1.18	0.24 x 0.24	0.93
	20	50		65	50	20	5	4- Φ 8	30	6 x 6	23.5
	300	44	F05	2.56	1.97	0.79	0.2	4- Φ 0.31	1.18	0.24 x 0.24	0.93
		50		60	65	50	20	5	4- Φ 8	30	6 x 6
	600	74	F07	3.54	2.76	0.79	0.24	4- Φ 0.39	1.18	0.24 x 0.24	0.93
		100		100	90	70	20	6	4- Φ 10	30	6 x 6
800/900 136/150	111	F07	3.54	2.76	0.79	0.24	4- Φ 0.39	1.18	0.24 x 0.24	0.93	
	150		150	90	70	20	6	4- Φ 10	30	6 x 6	23.5
2 50	150	44	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
	20	60		125	102	24	6	4- Φ 12	40	8 x 7	27
	300	52	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
		50		70	125	102	24	6	4- Φ 12	40	8 x 7
	600	89	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
		100		120	125	102	24	6	4- Φ 12	40	8 x 7
800/900 136/150	148	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06	
	200		200	125	102	24	6	4- Φ 12	40	8 x 7	27
2-1/2 65	150	59	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
	20	80		125	102	24	6	4- Φ 12	40	8 x 7	27
	300	96	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
		50		130	125	102	24	6	4- Φ 12	40	8 x 7
	600	148	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
		100		200	125	102	24	6	4- Φ 12	40	8 x 7
3 80	150	111	F10	4.02	4.92	0.94	0.24	4- Φ 0.47	1.57	0.31 x 0.28	1.06
	20	150		125	102	24	6	4- Φ 12	40	8 x 7	27
	300	148	F12	5.91	4.92	1.1	0.31	4- Φ 0.55	1.77	0.31 x 0.28	1.22
		50		200	150	125	28	8	4- Φ 14	45	8 x 7
	600	184	F12	5.91	4.92	1.1	0.31	4- Φ 0.55	1.77	0.31 x 0.28	1.22
		100		250	150	125	28	8	4- Φ 14	45	8 x 7
4 100	150	148	F12	5.91	4.92	1.1	0.31	4- Φ 0.55	1.77	0.31 x 0.28	1.22
	20	200		150	125	28	8	4- Φ 14	45	8 x 7	31
	300	258	F12	5.91	4.92	1.42	0.31	4- Φ 0.55	2.36	0.39 x 0.31	1.54
		50		350	150	125	36	8	4- Φ 14	60	10 x 8
6 150	150	332	F12	5.91	4.92	1.42	0.31	4- Φ 0.55	2.36	0.39 x 0.31	1.54
	20	450		150	125	36	8	4- Φ 14	60	10 x 8	39
	300	516	F12	5.91	4.92	1.57	0.31	4- Φ 0.55	2.36	0.47 x 0.31	1.69
		50		700	150	125	40	8	4- Φ 14	60	12 x 8

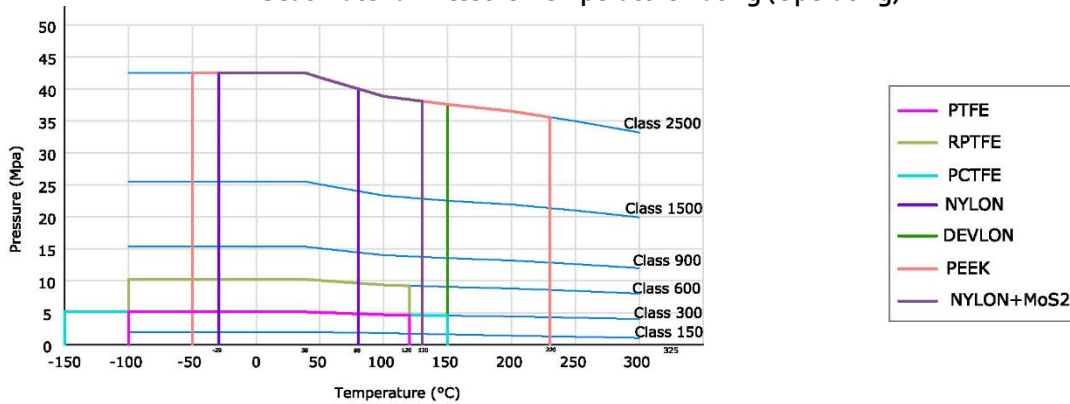
(1) Torque doesn't include safety factor. The torque is based on seats of PTFE/RPTFE (Class 150 – 300), Devlon (Class 900 – 1500), and PEEK (Class 2500). Torque shall be as follows if other than the base seat material is selected:

PTFE/RPTFE	Devlon	PCTFE	TFM	Delrin	PPL	PEEK	Metal
Base	x 1	x 0.8	X 0.8	x 1	X 0.8	x 1.3	x 2.2

(2) Number of bolt holes and bolt hole diameter.

FLOATING BALL VALVE

Seat Material Pressure-Temperature Rating (Operating)



SEAT MATERIALS

Material Name	Description	Operating Temperature	Operating Pressure	Service Application
PTFE	Virgin PTFE is the most widely used sealing material with excellent characteristics suitable for most services. It has excellent chemical resistance throughout valve industries and low coefficient of friction.	-112°F – 248°F -80°C – 120°C	Class 150 PN 20	General chemicals, low pressure services.
RPTFE	RPTFE (Reinforced PTFE) is typically produced by adding 15% fiber glass to virgin PTFE. It has better pressure-temperature properties than virgin PTFE, better resistance to wear and deformation under load. NOT to be used in hydrofluoric acid	-112°F – 248°F -80°C – 120°C	Class 150 – 600 PN 20 – 100	For low and medium pressure services.
PCTFE	PCTFE is a homopolymer of chlorotrifluoroethylene, featuring high compressive strength and low deformation under load.	-320°F – 248°F -196°C – 120°C	Class 150 – 300 PN 20 – 50	For low temperature low pressure services.
Nylon 6	Nylon is a common seat material for Class 600 valves. It is highly resistance to many chemicals and abrasions, and can be used in air, oil and other gas media. It is NOT suitable for strong oxidization agents.	-22°F – 176°F -30°C – 80°C	Class 150 – 1500 PN 20 – 250	For high pressure, low temperature services.
Devlon®	Devlon® is a high molecular weight polyamide that is specifically tailored for high temperature/pressure applications in the offshore oil and gas sector. It is low moisture absorption.	-50°F – 302°F -46°C – 150°C	Class 150 – 1500 PN 20 – 250	For high pressure high temperature offshore services.
Nylon+MoS2	Molon (Nylon+MoS2) is a modified Nylon, the characteristics are similar to Devlon with it is cheaper than Devlon.	-20°F – 266°F -29°C – 130°C	Class 150 – 1500 PN 20 – 250	For high pressure, low temperature services.
PEEK	PEEK is a high performance engineered thermoplastic. It is excellent in water/chemical resistance and it is unaffected by continuous exposure to hot water/steam	-148°F – 500°F -100°C – 260°C	Class 150 – 2500 PN 20 – 420	For high pressure high temperature services.
PPL	PPL (Polyparaphenylene) is an excellent seat material with low coefficient of friction, highly resistant to pressure and temperature.	-50°F – 482°F -46°C – 250°C	Class 150 – 300 PN 20 – 50	For high temperature low pressure services.
Delrin®	Delrin® (Acetal Resin) possesses high tensile strength, creep resistance and toughness. It exhibits low moisture absorption. It is chemically resistant to hydrocarbons, solvents and neutral chemicals. DO NOT use it on oxygen service or steam.	-50°F – 194°F -46°C – 90°C	Class 150 – 600 PN 20 – 100	For extreme pressure services.
TFM	TFM (modified PTFE) is a chemically modified PTFE that offers enhanced properties while retaining all the proven advantages of a conventional PTFE.	-112°F – 320°F -80°C – 160°C	Class 150 PN 20	For services requiring high purity.
Metal	Metal (typically stellite) seats are used in severe conditions where flashing, hydraulic shock, abrasive media or trapped metal may exist in the line.	Varies	Varies	For severe services.

O-RING MATERIALS

Material Name	Description	Operating Temperature	Operating Pressure
NBR	Buna-N (NBR) is an all purpose polymer with good resistance to water, solvents, oil and hydraulic fluids.	-50°F – 176°F -46°C – 80°C	Class 150 – 600 PN 20 – 100
HNBR	HNBR (Hydrogenated NBR) has similar media stability to NBR but with significantly better heat and oxidization stability.	-67°F – 338°F -55°C – 170°C	Class 150 – 2500 PN 20 – 420
Viton	Viton (fluorocarbon) is a fluorocarbon elastomer that is compatible with a broad range of chemicals. It performs well in mineral acids, salt solutions, chlorinated hydrocarbons and petroleum oils	-20°F – 400°F -29°C – 204°C	Class 150 – 2500 PN 20 – 420
EPDM	EPDM has good abrasion and tear resistance with excellent chemical resistance to a variety of acids and alkalines. It is susceptible to attack by oil, strong acids and strong alkalines and should not be used in compressed air lines.	-50°F – 302°F -46°C – 150°C	Class 150 – 1500 PN 20 – 250
FVMQ	Fluorosilicone is a silicone polymer chain with fluorinated side-chains for improved oil and fuel resistance. The mechanical and physical properties are very similar to those of silicone.	-50°F – 350°F -46°C – 177°C	Class 150 – 1500 PN 20 – 250
AFLAS®	AFLAS® is highly resistant to a wide range of chemicals	-49°F – 428°F -29°C – 220°C	Class 150 – 1500 PN 20 – 250

FLOATING BALL VALVE

VALVE FIGURE NUMBER

HOW TO ORDER

	Nominal Size A	Valve Type B	Pressure Rating C	End Conn. D	Construct- ion E	Body Material F	Trim Material G	Seat or Insert H	O-ring I	Operation Mode J
e.g.	0 1	B A	6	R	1	C 1	1 0	R	0	L

NPS 1 Class 600 floating ball valve, RF flanged, 2-piece split body, A105 body, SS316 trim, RPTFE seat insert, No O-ring, Lever operated.

A Nominal Size

oo Modified	o2 2 (DN 50)	o7 8 RB	19 20 RB	31 32 RB
F1 3/8 (DN 10)	R2 2 RB	o8 8 (DN 200)	20 20 (DN 500)	32 32 (DN 800)
F2 1/2 (DN 15)	F6 2 1/2 (DN 65)	o9 10 RB	21 22 RB	33 34 RB
oR 1/2 RB	3R 2 1/2 RB	10 10 (DN 250)	22 22 (DN 550)	34 34 (DN 850)
F3 3/4 (DN 20)	o3 3 (DN 80)	11 12 RB	23 24 RB	35 36 RB
Ro 3/4 RB	R3 3 RB	12 12 (DN 300)	24 24 (DN 600)	36 36 (DN 900)
o1 1 (DN 25)	o4 4 (DN 100)	13 14 RB	25 26 RB	37 38 RB
R1 1 RB	R4 4 RB	14 14 (DN 350)	26 26 (DN 650)	38 38 (DN 950)
F4 1 1/4 (DN 32)	o5 5 (DN 125)	15 16 RB	27 28 RB	39 40 RB
1R 1 1/4 RB	R5 5 RB	16 16 (DN 400)	28 28 (DN 700)	40 40 (DN 1000)
F5 1 1/2 (DN 40)	o6 6 (DN 150)	17 18 RB	29 30 RB	41 42 RB
2R 1 1/2 RB	R6 6 RB	18 18 (DN 450)	30 30 (DN 750)	... More as such

B Valve Type

BA Ball Valve

C Pressure Rating

o Modified	7 Class 2500
1 Class 150	9 Class 900
3 Class 300	8 Class 800
5 Class 1500	2 Class 125
6 Class 600	4 Class 400

D End Connection

X Other	B Butt-Weld (BW)
R RF Flanged	S Socket-Weld (SW)
J RTJ Flanged	
F FF Flanged	
T Threaded	

E Construction

o Other
1 2PC Body Floating
2 3PC Body Floating
5 Welded Body Floating

F Body Material

Xo Other	E7 A182 F91	S6 A351 CF8M	A1 B564 No4400(Monel 400)
C1 A105N	E8 A217 C12A	S7 A182 F316L	A2 A494 M-35-1
C2 A216 WCA	L1 A350 LF1	S8 A351 CF3M	A3 B865 No5500(Monel K500)
C4 A216 WCB	L2 A352 LCA	S9 A182 F347	A4 B462 No8020(Alloy 20)
C6 A216 WCC	L3 A350 LF2	So A351 C F8C	A5 A351 CN7M(Cast Alloy 20)
M1 A182 F1	L4 A352 LC2	SA A182 F317	A6 A990 CN3MCU(Cast Alloy 20)
M2 A217 WC1	L5 A350 LF3	SB A182 F321	A7 B462 N10276 (Hastelloy C276)
M3 A182 F2	L6 A352 LC3	SC A182 F304H	A8 A494 CW12MW(Cast Hastelloy Alloy C276)
M4 A217 WC4	L7 A350 LF5	SD A351 CF10	B1 B564 No6625 (Alloy Inconel 625)
M5 A182 F12 CL 2	L8 A352 LCB	SE A182 F316H	B2 A494 CW6MC(Cast Inconel Alloy 625)
M6 A217 WC5	L9 A350 LF6	SF A351 CF10M	B3 B564 No8825 (Alloy Inconel 825)
M7 A182 F11 CL 2	LA A350 LF9	SG A182 F304(L) Dual	B4 A494 CW5MCUC(Cast Inconel Alloy 825)
M8 A217 WC6	LB A352 LC9	SH A182 F316(L) Dual	H1 B62 C83600 Composition Bronze Casting
M9 A182 F22 CL 3	LD A352 LCC	D1 A182 F51	H2 B148 C95400 Al-Bronze Casting
Mo A217 WC9	S1 A182 F304	D2 A995 4A	H3 B148 C95800 Al-Bronze Casting
E1 A182 F5	S2 A351 CF8	D3 A182 F53	H4 B150 C63000 Al-Bronze Rod, Bar
E2 A217 C5	S3 A182 F304L	D4 A995 5A	H5 B150 C63200 Al-Bronze Rod, Bar
E5 A182 F9	S4 A351 CF3	D5 A182 F55	
E6 A217 C12	S5 A182 F316	D6 A995 6A	

FLOATING BALL VALVE

VALVE FIGURE NUMBER (CONT'D)

HOW TO ORDER

Nominal Size	Valve Type	Pressure Rating	End Conn.	Construction	Body Material	Trim Material	Seat or Insert	O-ring	Operation Mode
A	B	C	D	E	F	G	H	I	J
e.g. 1 6	B A	6	R	4	C 1	1 0	N	1	G

NPS 1 Class 600 floating ball valve, RF flanged, 2-piece split body, A105 body, SS316 trim, RPTFE seat insert, No O-ring, Lever operated.

G Trim Material

00 Other	25 F53/F53/F53	41 A105+Ni60/A105+Ni55/4140+ENP
01 F6a/F6a/410	26 A105+ENP/A105+ENP/F316	42 A105+Ni60/A105+Ni60/17-4PH
02 304/304/304	27 304+ENP/304+ENP/304+ENP	44 Inconel 625/Inconel 625/Inconel 625
09 Monel/Monel/Monel	28 Inconel 625/Inconel 625/F316	45 316+ENP/316+ENP/F316
10 316/316/316	29 A105+ENP/A105+ENP/4140+ENP	46 316+ENP/316+ENP/F316+ENP
13 Alloy 20/Alloy 20/Alloy 20	30 A105+ENP/A105+ENP/A105+ENP	47 316+Ni60/316+Ni55/17-4PH
19 A105+ENP/A105+ENP/F6a	31 316/316/17-4PH	48 316L+Ni60/316L+Ni55/17-4PH
20 304L/304L/304L	36 LF2+ENP/LF2+ENP/F6a	49 316+Ni60/316+Ni55/4140+ENP
21 316L/316L/316L	37 A105+TCC/A105+TCC/17-4PH	50 316L+Ni60/316L+Ni55/4140+ENP
22 F321/F321/F321	38 A105+TCC/A105+TCC/4140+ENP	
23 F55/F55/F55	39 A105+TCC/A105+TCC/F51	
24 F51/F51/F51	40 A105+ENP/A105+ENP/17-4PH	

H Seat or Seat Insert

X Other	M Metal
T PTFE	V Viton
R RPTFE	H HNBR
P PCTFE	E EPDM
N Nylon	
D Devlon	
P PEEK	

I O-Ring

0 No O-ring
1 Viton
2 Teflon
3 HNBR
4 NBR
5 Special
6 EPDM
7 FVMQ
8 FFKM
9 AFLAS

J Operation

L Lever
D Lever w/ locking device
G Gearbox
F Gearbox w/ locking device
C Gear w/chain
B Bare stem
P Pneumatic
N Pneumatic-Hydraulic
E Electric
Q Other

HOW THE FIGURE NUMBER SYSTEM WORKS

Introduction. Figure number system uses a code consisting 14 digits of letters and numbers to represent the specification of a valve of certain specification. Among 14 digits, they are separated into 10 groups identified by letters from A to J. Each group represents a parameter of a valve, together they contain almost all the essential parameters of the valve.

Uses. Using the figure number system to generate a code is easy. Under each group, the code is shown on the left while on the right is the meaning of the code. Start by selecting a code from group A, through group J. If the specification of the valve is not listed, select the code for "Other/Modified ". The total length of the figure number shall be exactly 14 digits.

Cautions. It is advised that you have as detailed the specification as possible to generate a figure number, which means eliminating "Other/Modified". If you don't have enough specification or information about the valve you are ordering, or you're not sure how to use the system to generate a figure number, contact one of our sales representatives for help.

Note: FBV reserves the right to make any modifications without notice.





Offshore



Pipeline



Onshore



Refinery



IMPORTANT NOTICE

- All dimensions in inches not listed in standards are converted from millimeters. Weights in lbs (pounds) are converted from kilograms.
- Data listed in the catalog, including dimensions, weights, specifications and other valve related data are intended to provide general information and guidance only.
- FBV Inc. assumes no responsibility for errors or inadequacy relevant to any information provided in this catalog. Any information provided in this catalog is subject to change without notice.



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