

## Ball Valves



# ACE VALVE



## Ball Valves



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## Specification of Ball Valve

Floating and Trunnion Mounted Ball valve are widely used in plants and high pressure piping system.

The valve shall be capable of bi-directional flow bubble tight shut-off at full rated pressure.

### TYPE NUMBERING SYSTEM

- AV-BFA Floating Flange Type Full Bore Ball valves
- AV-BFB Floating Flange Type Reduce Bore Ball valves
- AV-BTA Trunnion Mounted Side Entry Flange Type Full Bore Ball valves
- AV-BTB Trunnion Mounted Side Entry Flange Type Reduce Bore Ball valves
- AV-BTC Trunnion Mounted Side Entry Butt Welding Type Full Bore Ball valves
- AV-BTD Trunnion Mounted Side Entry Butt Welding Type Reduce Bore Ball valves
- AV-BOA Trunnion Mounted Top Entry Flange Type Full Bore Ball valves
- AV-BOB Trunnion Mounted Top Entry Flange Type Reduce Bore Ball valves
- AV-BOC Trunnion Mounted Top Entry Butt Welding Type Full Bore Ball valves
- AV-BOD Trunnion Mounted Top Entry Butt Welding Type Reduce Bore Ball valves

### STANDARD COMPLIANCE

- The face to face dimension shall be in accordance with ASME B 16.10, API 6D, API 6D SS, API 6A.
- Fire safe design shall be in accordance with API 607.

### PRODUCTION RANGE

- SIZE : DN 15mm (1/2 inch) ~ DN 1500mm (60 inch)
- FLANGE RATING : ASME 150LB, 300LB, 600LB, 900LB, 1500LB, 2500LB  
API 2000, 3000, 5000, 10000, 15000, 20000
- WORKING PRESSURE : 6,170 psi (425kg/cm<sup>2</sup>)
- WORKING TEMPERATURE : -196 °C ~ +815 °C

### APPLICABLE FLANGE

- KS/JIS 5K, 10K, 16K, 20K, 30K, 40K, 63K
- ASME B 16.5 Class 150LB, 300LB, 600LB, 900LB, 1500LB, 2500LB
- ASME B 16.47 Class 150LB, 300LB, 600LB, 900LB
- API 2000, API 3000, API 5000, API 10000
- EN 1092 PN6, PN10, PN16, PN25, PN40
- ISO 7005 PN6, PN10, PN16, PN20, PN25, PN40



## Ball Valves

### Design

#### Floating

- Pressure assisted seats give tight shut-off in all valves of comparatively at small size valve, the floating ball is in contact with the seat.

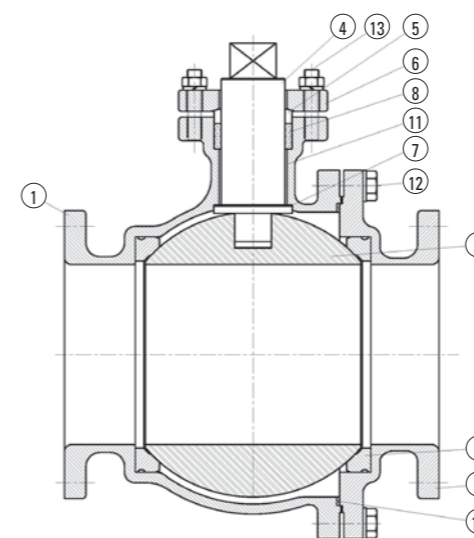
#### Trunnion

- Trunnion ball is applicable to high pressure or large size valves which reduced sealing load against the fluid pressure, with lower operational torque and long durability.

### Characteristics

- Bi-directional valve.
- Blow-out Prevent Stem.
- Stem and trunnion are fitted in self lubricated bush which result low operating torques for easy operation.
- Live-loaded thrust washer prevents galling and provides a secondary stem seal.
- Stem extension is available upon requirement of clients to comply with installation condition.
- Applicable standard : ASME B16.5, 16.10 and B16.34, API 6D, API 608, API 607.
- Anti-Static Device.
- ASME Section 8 cover/body flange connection and bolting provide high sealing integrity of body gasket.

### Construction of Materials

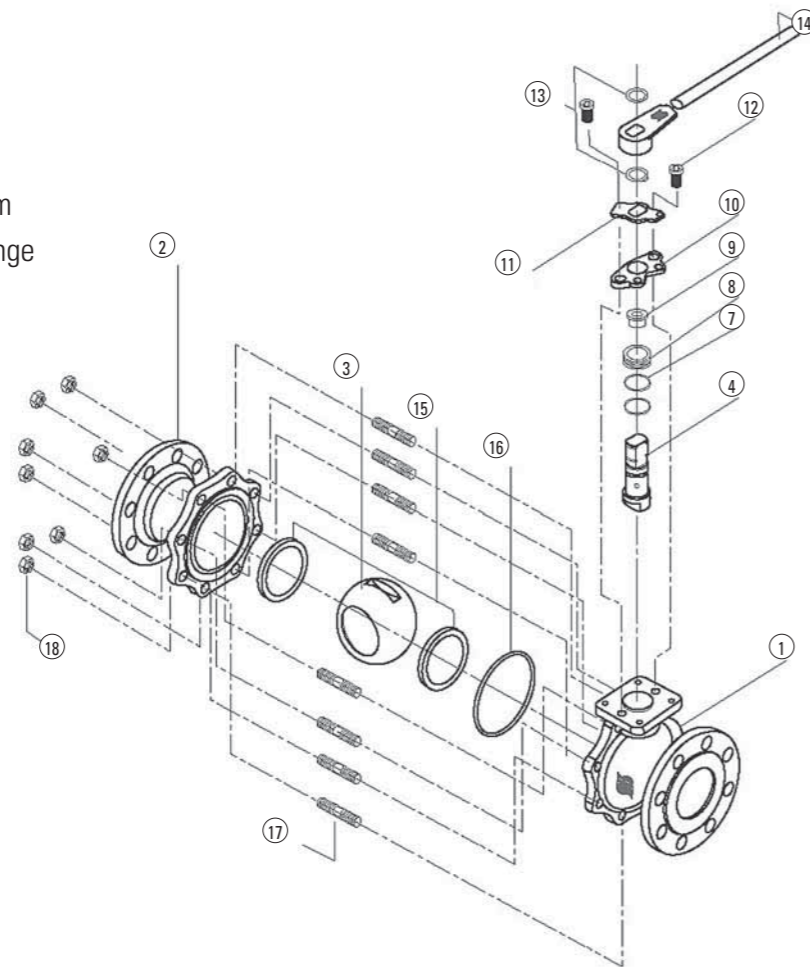


NO.	PART NAME	MATERIAL
1	BODY	CAST STEEL / STAINLESS STEEL / AL BRONZE
2	CAP	
3	BALL	STAINLESS STEEL / BRONZE+Cr COATING / METAL+HARD FACING
4	STEM	STAINLESS STEEL
5	GLAND RING	CARBON STEEL / STAINLESS STEEL
6	PACKING GLAND	CARBON STEEL / STAINLESS STEEL
7	THRUST WASHER	PTFE / CARBON STEEL+PTFE / STAINLESS STEEL+PTFE
8	PACKING	GRAPHITE / PTFE / VOC / RUBBER
9	SEAT	PTFE / RTFE / DEVLON / NYLON / PEEK / METAL+HARD FACING
10	GASKET	SPIRAL WOUND / GRAPHITE / PTFE / RUBBER
11	STEM BUSH	PTFE / CARBON STEEL+PTFE / STAINLESS STEEL+PTFE
12	CAP BOLT	CARBON STEEL / STAINLESS STEEL
13	GLAND BOLT	CARBON STEEL / STAINLESS STEEL

\* Other material can be available upon requirement.

# Floating Ball Valves

- Fire Safe Design
- Locking Device
- Anti-Static Device
- Blow-Out Prevent Stem
- ISO Mounting Pad Flange

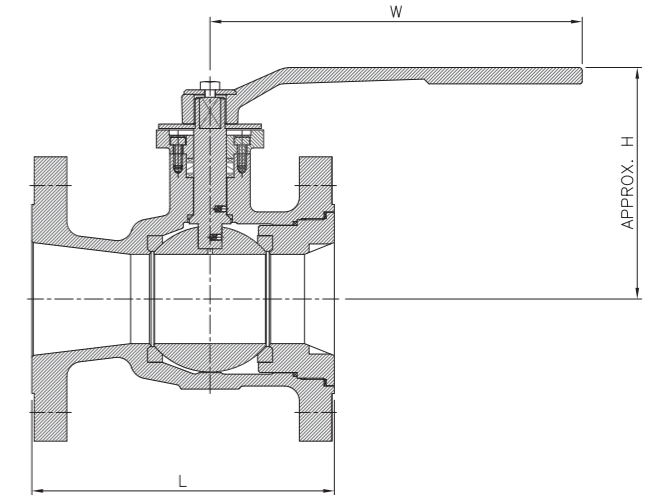
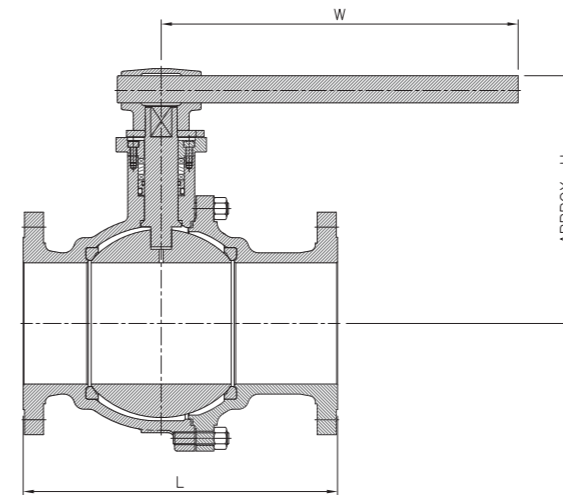


## STANDARD MATERIALS

NO	PART NAME	CAST STEEL		STAINLESS STEEL	
1	BODY	CAST STEEL / STAINLESS STEEL / AL BRONZE			
2	CAP	CAST STEEL / STAINLESS STEEL / AL BRONZE			
3	BALL	STAINLESS STEEL / BRONZE+Cr COATING / METAL+HARD FACING			
4	STEM	STAINLESS STEEL			
7	O-RING	RUBBER			
8	GLAND PACKING	GRAPHITE / PTFE / VOC / RUBBER			
9	GLAND RING	CARBON STEEL / STAINLESS STEEL			
10	GLAND FLANGE	CARBON STEEL / STAINLESS STEEL			
11	STOPPER	CARBON STEEL / STAINLESS STEEL			
12	GLAND BOLT	CARBON STEEL		STAINLESS STEEL	
13	SNAP RING	CARBON STEEL			
14	LEVER	DUCTILE IRON / CARBON STEEL / STAINLESS STEEL			
15	SEAT	PTFE / RTFE / DEVLON / NYLON / PEEK / METAL+HARD FACING			
16	GASKET	SPIRAL WOUND / GRAPHITE / PTFE / RUBBER			
17	STUD BOLT				
18	NUT	CARBON STEEL		STAINLESS STEEL	

\* Other material can be available upon requirement.

# Floating Ball Valves (Full Bore & Reduced Bore) CLASS 150LB and 300LB



## CLASS 150LB

(unit : mm)

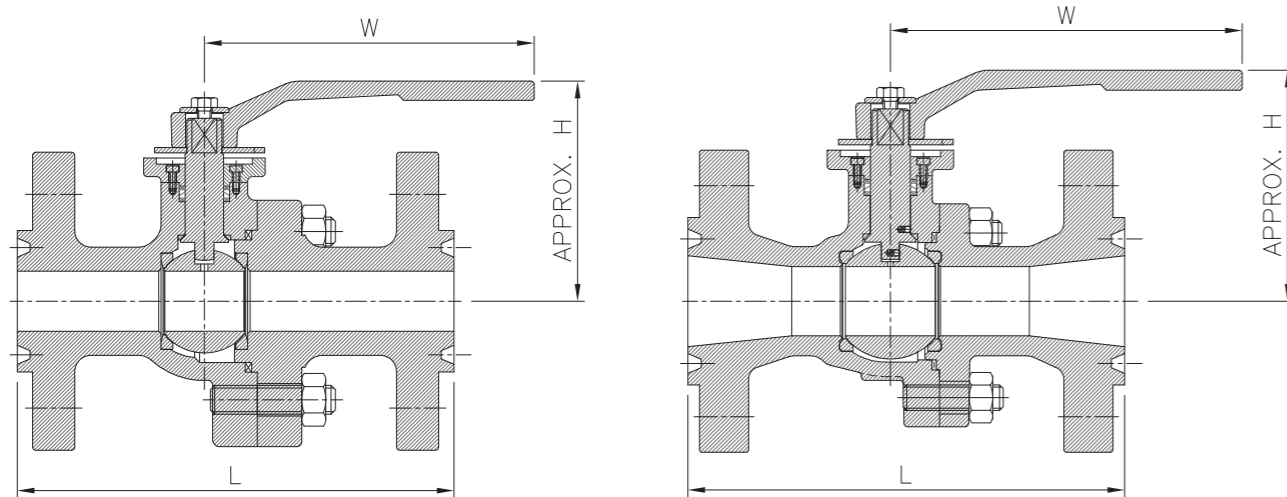
SIZE		BORE	L	H	W	WEIGHT (kg)
inch	mm					
1/2"	15	FB	108	83	150	2
		RB	108	78	150	2
3/4"	20	FB	117	87	150	3
		RB	117	80	150	3
1"	25	FB	127	103	170	4
		RB	127	98	170	3
1 1/2"	40	FB	165	123	250	8
		RB	165	118	250	6
2"	50	FB	178	142	250	11
		RB	178	133	250	9
3"	80	FB	203	194	350	24
		RB	203	156	250	15
4"	100	FB	229	210	460	37
		RB	229	194	350	28
6"	150	FB	394	310	800	84
		RB	267	209	460	50
8"	200	FB	457	360	1000	130
		RB	292	310	800	80

## CLASS 300LB

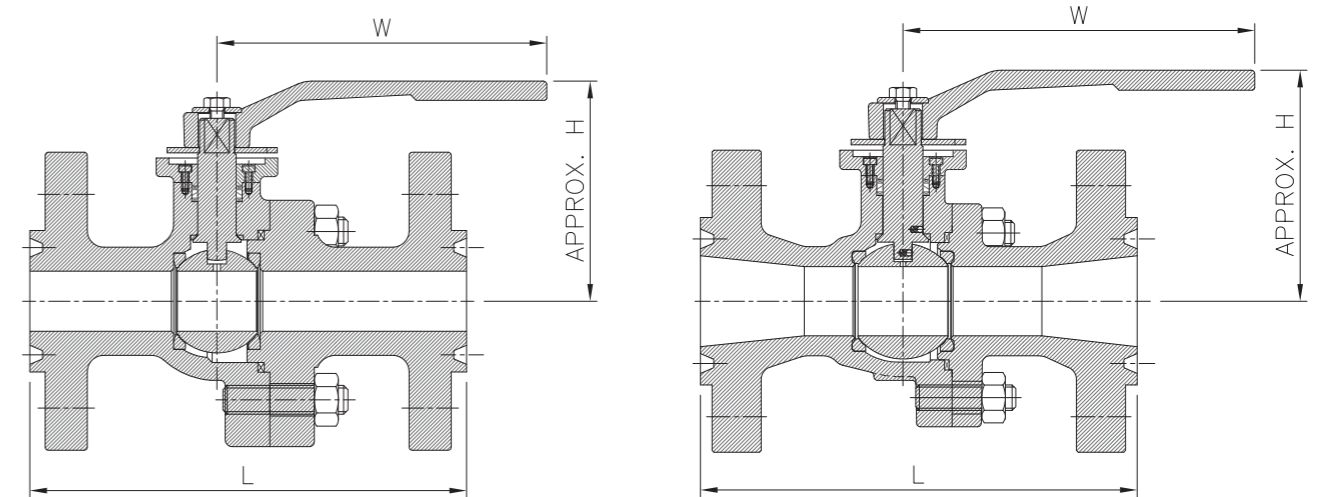
(unit : mm)

SIZE		BORE	L	H	W	WEIGHT (kg)
inch	mm					
1/2"	15	FB	140	83	150	3
		RB	140	78	150	3
3/4"	20	FB	152	87	150	4
		RB	152	80	150	4
1"	25	FB	165	103	170	6
		RB	165	98	170	5
1 1/2"	40	FB	190	123	250	11
		RB	190	118	250	9
2"	50	FB	216	142	250	14
		RB	216	133	250	12
3"	80	FB	283	194	350	33
		RB	283	156	250	24
4"	100	FB	305	210	460	50
		RB	305	194	350	39
6"	150	FB	403	310	800	108
		RB	403	209	460	65
8"	200	FB	502	360	1000	164
		RB	419	310	800	140

## Two-Piece Type Floating Ball Valves (Full Bore & Reduced Bore) CLASS 600LB and 900LB



## Two-Piece Type Floating Ball Valves (Full Bore & Reduced Bore) CLASS 1500LB and 2500LB



**CLASS 600LB** (unit : mm)

SIZE		BORE	L	H	W	WEIGHT (kg)
inch	mm					
1/2"	15	FB	165	90	150	5
		RB	165	85	150	4
3/4"	20	FB	190	92	150	6
		RB	190	90	150	6
1"	25	FB	216	105	170	8
		RB	216	92	150	7
1 1/2"	40	FB	241	125	250	15
		RB	241	115	250	13
2"	50	FB	292	145	250	21
		RB	292	127	250	18
3"	80	FB	356	195	350	47
		RB	356	158	250	33
4"	100	FB	432	250	800	76
		RB	432	195	350	60
6"	150	FB	559	295	800	170
		RB	559	250	800	119

**CLASS 900LB** (unit : mm)

SIZE		BORE	L	H	W	WEIGHT (kg)
inch	mm					
1/2"	15	FB	216	90	170	8
		RB	216	85	170	7
3/4"	20	FB	229	95	170	9
		RB	229	90	170	9
1"	25	FB	254	110	250	12
		RB	254	95	170	11
1 1/2"	40	FB	305	130	250	20
		RB	305	120	250	16
2"	50	FB	368	150	460	34
		RB	368	130	250	28
3"	80	FB	381	200	600	75
		RB	381	150	460	52
4"	100	FB	457	260	800	122
		RB	457	200	600	96

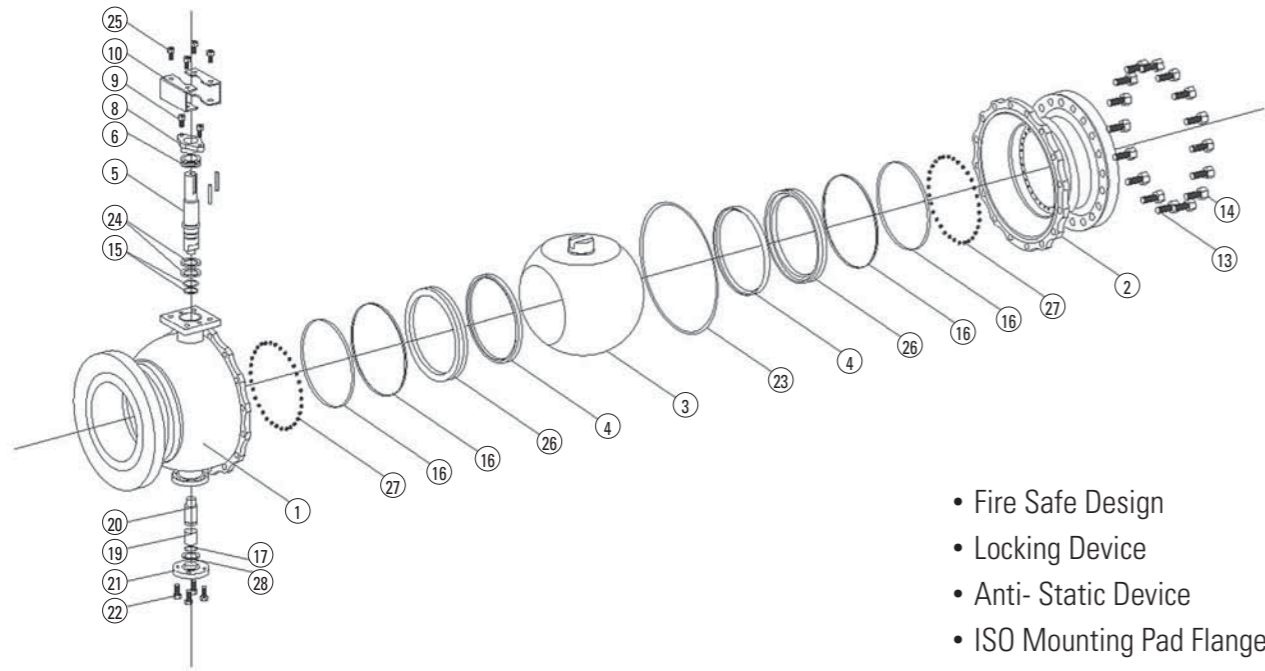
**CLASS 1500LB** (unit : mm)

SIZE		BORE	L	H	W	WEIGHT (kg)
inch	mm					
1/2"	15	FB	216	90	170	8
		RB	216	85	170	7
3/4"	20	FB	229	95	170	10
		RB	229	90	170	9
1"	25	FB	254	110	250	13
		RB	254	95	170	12
1 1/2"	40	FB	305	130	350	22
		RB	305	120	250	17
2"	50	FB	368	150	460	37
		RB	368	130	350	30

**CLASS 2500LB** (unit : mm)

SIZE		BORE	L	H	W	WEIGHT (kg)
inch	mm					
1/2"	15	FB	216	90	170	8
		RB	216	85	170	7
3/4"	20	FB	229	95	170	10
		RB	229	90	170	9
1"	25	FB	254	110	250	13
		RB	254	95	170	12
1 1/2"	40	FB	305	130	350	22
		RB	305	120	250	17
2"	50	FB	368	150	460	37
		RB	368	130	350	30

## Two-Piece Trunnion Ball Valves



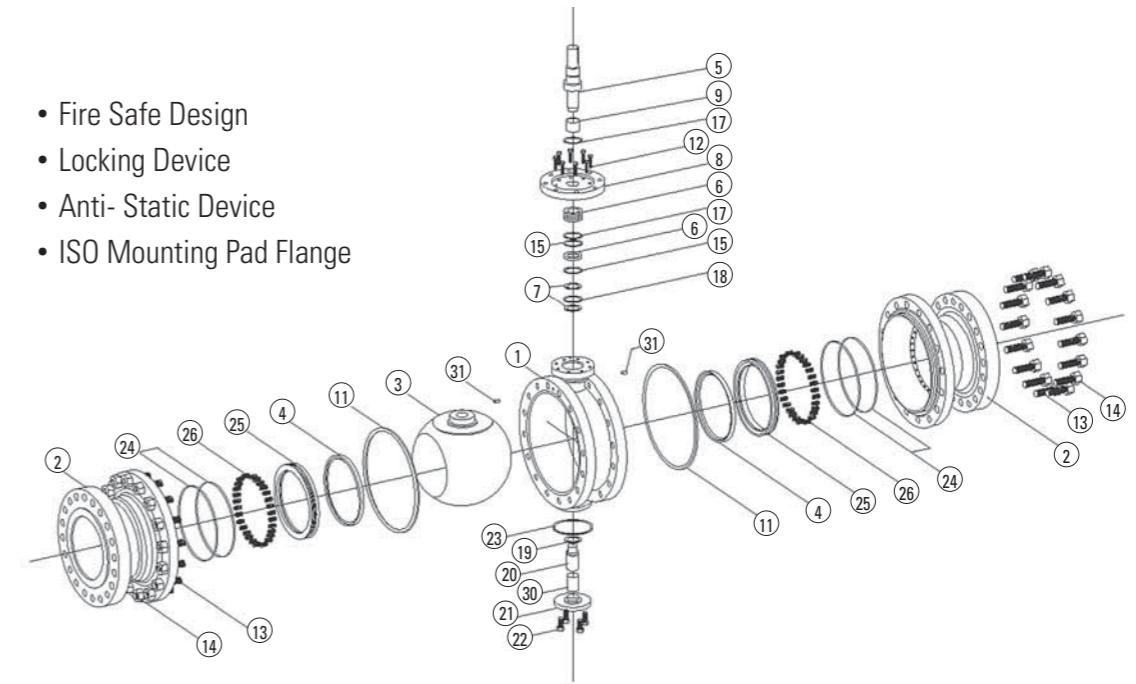
- Fire Safe Design
- Locking Device
- Anti-Static Device
- ISO Mounting Pad Flange

### STANDARD MATERIALS

NO	PART NAME	CAST STEEL	STAINLESS STEEL
1	BODY	CAST STEEL / STAINLESS STEEL / AL BRONZE	
2	CAP	CAST STEEL / STAINLESS STEEL / AL BRONZE	
3	BALL	STAINLESS STEEL / BRONZE+Cr COATING / METAL+HARD FACING	
4	SEAT	PTFE / RTFE / DEVLON / NYLON / PEEK / METAL+HARD FACING	
5	STEM	STAINLESS STEEL	
6	PACKING	GRAPHITE / PTFE / VOC / RUBBER	
8	GLAND		
9	GLAND BOLT		
10	BRACKET	CABON STEEL	
13	STUD BOLT	CARBON STEEL	STAINLESS STEEL
14	NUT		
15	O-RING		RUBBER
16	O-RING		RUBBER
17	O-RING		RUBBER
19	LOWER STEM BUSH	CARBON STEEL+PTFE / STAINLESS STEEL+PTFE	
20	LOWER STEM	STAINLESS STEEL	
21	LOWER COVER	CARBON STEEL	STAINLESS STEEL
22	LOWER COVER BOLT / NUT	CARBON STEEL	STAINLESS STEEL
23	GASKET	SPIRAL WOUND / GRAPHITE / PTFE / RUBBER	
24	THRUST WASHER	PTFE / CARBON STEEL+PTFE / STAINLESS STEEL+PTFE	
25	BRACKET BOLT / NUT	CARBON STEEL	STAINLESS STEEL
26	RETAINER	STAINLESS STEEL	
27	SPRING	INCONEL X 750	
28	GASKET	SPIRAL WOUND / GRAPHITE / PTFE / RUBBER	
30	SEALANT INJECTION(STEM&SEAT)	STAINLESS STEEL	

\* Other material can be available upon requirement.

## Three-Piece Trunnion Ball Valves



- Fire Safe Design
- Locking Device
- Anti-Static Device
- ISO Mounting Pad Flange

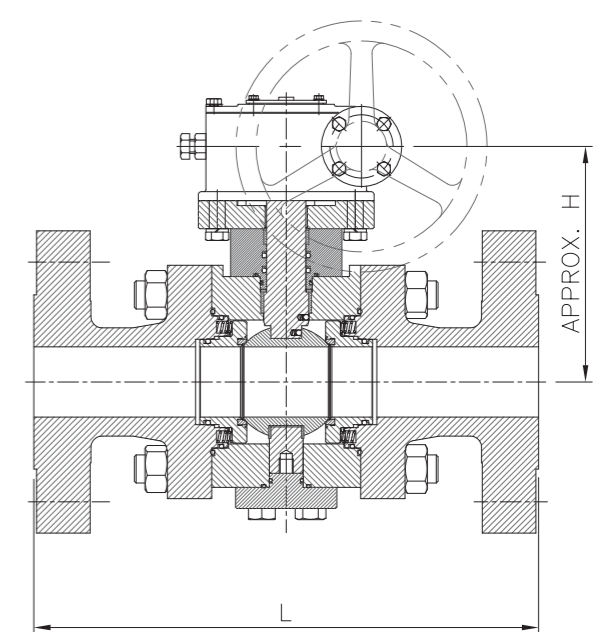
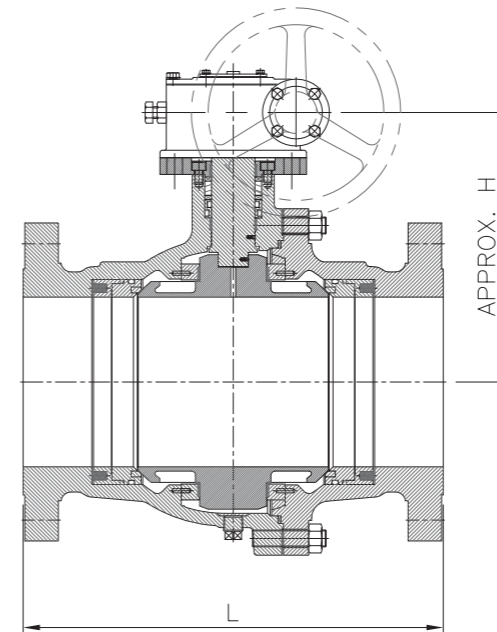
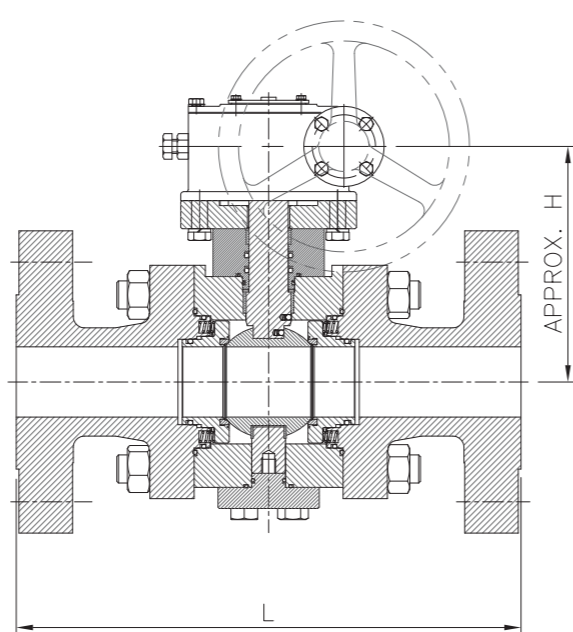
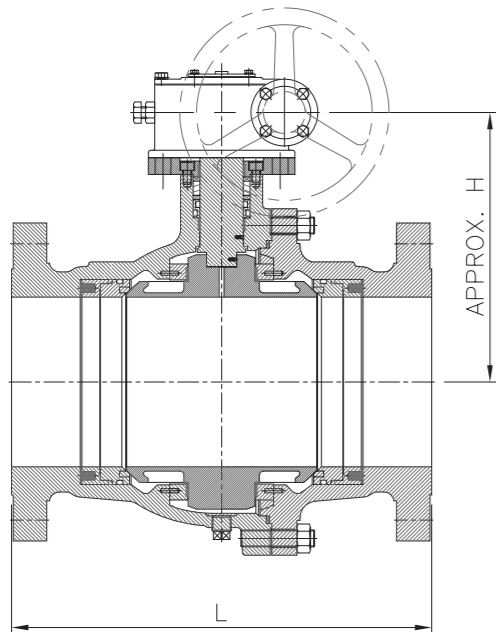
### STANDARD MATERIALS

NO	PART NAME	CAST STEEL	STAINLESS STEEL
1	BODY	CAST STEEL / STAINLESS STEEL / AL BRONZE	
2	CAP	CAST STEEL / STAINLESS STEEL / AL BRONZE	
3	BALL	STAINLESS STEEL / BRONZE+Cr COATING / METAL+HARD FACING	
4	SEAT	PTFE / RTFE / DEVLON / NYLON / PEEK / METAL+HARD FACING	
5	STEM	STAINLESS STEEL	
6	LANTERN RING	STAINLESS STEEL	
7	THRUST WASHER	PTFE / CARBON STEEL+PTFE / STAINLESS STEEL+PTFE	
8	GLAND	CARBON STEEL	STAINLESS STEEL
9	STEM BUSH	CARBON STEEL+PTFE / STAINLESS STEEL+PTFE	
10	PACKING	GRAPHITE / PTFE / VOC / RUBBER	
11	GASKET	SPIRAL WOUND / GRAPHITE / PTFE / RUBBER	
12	WRENCH BOLT		
13	STUD BOLT	CARBON STEEL	STAINLESS STEEL
14	NUT		
15	O-RING		RUBBER
16	O-RING		RUBBER
17	O-RING		RUBBER
18	ANTISTATIC DEVICE		STAINLESS STEEL
19	O-RING		RUBBER
20	LOWER STEM		STAINLESS STEEL
21	LOWER COVER	CARBON STEEL	STAINLESS STEEL
22	LOWER COVER BOLT / NUT	CARBON STEEL	STAINLESS STEEL
23	GASKET	SPIRAL WOUND / GRAPHITE / PTFE / RUBBER	
24	O-RING		RUBBER
25	RETAINER		STAINLESS STEEL
26	SPRING		INCONEL X 750
30	LOWER STEM BUSH	CARBON STEEL+PTFE / STAINLESS STEEL+PTFE	
31	SEALANT INJECTION(STEM&SEAT)	STAINLESS STEEL	

\* Other material can be available upon requirement.

## Trunnion Type Ball Valve (Side Entry) CLASS 150LB and 300LB

## Trunnion Type Ball Valve (Side Entry) CLASS 600LB and 900LB



### CLASS 150LB

(unit : mm)

SIZE		BORE	LIFACE TO FACE DIMENSION			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	178	191	216	115	20
		RB	178	191	216	100	16
3"	80	FB	203	216	283	140	42
		RB	203	216	283	115	29
4"	100	FB	229	241	305	180	62
		RB	229	241	305	140	47
6"	150	FB	394	406	457	235	132
		RB	394	406	457	180	78
8"	200	FB	457	470	521	325	216
		RB	457	470	521	235	137
10"	250	FB	533	546	559	395	319
		RB	533	546	559	325	240
12"	300	FB	610	622	635	440	438
		RB	610	622	635	395	359
14"	350	FB	686	699	762	480	603
		RB	686	699	762	440	519
16"	400	FB	762	775	838	510	860
		RB	762	775	838	480	634
18"	450	FB	864	876	914	565	1114
		RB	864	876	914	510	849
20"	500	FB	914	927	991	600	1495
		RB	914	927	991	565	1052
24"	600	FB	1067	1080	1143	720	2316
		RB	1067	1080	1143	665	1658
26"	650	FB	1140	1160	1245	765	2664
		RB	1140	1160	1245	720	2215
28"	700	FB	1240	1270	1346	810	3236
		RB	1240	1270	1346	765	2600
30"	750	FB	1290	1320	1397	860	3915
		RB	1290	1320	1397	810	2856
32"	800	FB	1370	1400	1524	930	4346
		RB	1370	1400	1524	860	4005
36"	900	FB	1520	1550	1727	990	6873
		RB	1520	1550	1727	950	5005
40"	1000	FB	1700	1730	1950	1075	10316
		RB	1700	1730	1950	990	7100
42"	1050	FB	1860	1890	2010	1130	11971
		RB	1860	1890	2010	1075	9200
48"	1200	FB	2080	2130	2220	1230	18371
		RB	2080	2130	2220	1130	13520
56"	1400	FB	2250	2280	2500	1400	23882
		RB	2250	2280	2500	1230	17576
60"	1500	FB	2400	2440	2640	1455	31047
		RB	2400	2440	2640	1400	22849

### CLASS 300LB

(unit : mm)

SIZE		BORE	LIFACE TO FACE DIMENSION			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	216	232	216	115	25
		RB	216	232	216	100	20
3"	80	FB	283	298	283	140	41
		RB	283	298	283	115	32
4"	100	FB	305	321	305	180	67
		RB	305	321	305	140	52
6"	150	FB	403	419	457	235	149
		RB	403	419	457	180	104
8"	200	FB	502	518	521	325	244
		RB	502	518	521	235	180
10"	250	FB	568	584	559	395	365
		RB	568	584	559	325	287
12"	300	FB	648	664	635	440	536
		RB	648	664	635	395	446
14"	350	FB	762	778	762	480	719
		RB	762	778	762	440	620
16"	400	FB	838	854	838	510	1073
		RB	838	854	838	480	858
18"	450	FB	914	930	914	565	1376
		RB	914	930	914	510	1038
20"	500	FB	991	1010	991	615	1779
		RB	991	1010	991	565	1315
24"	600	FB	1143	1165	1143	720	2722
		RB	1143	1165	1143	675	2064
26"	650	FB	1245	1270	1245	765	3303
		RB	1245	1270	1245	720	2769
28"	700	FB	1346	1372	1346	820	3947
		RB	1346	1372	1346	765	3200
30"	750	FB	1397	1422	1397	865	4645
		RB	1397	1422	1397	820	3457
32"	800	FB	1524	1553	1524	930	5146
		RB	1524	1553	1524	865	5006
36"	900	FB	1727	1756	1727	990	9467
		RB	1727	1756	1727	950	6007
40"	1000	FB	1910	1980	1950	1075	10973
		RB	1910	1980	1950	990	8200
42"	1050	FB	1970	2040	2010	1130	12840
		RB	1970	2040	2010	1075	10271
48"	1200	FB	2160	2250	2220	1230	19983
		RB	2160	2250	2220	1130	15000
56"	1400	FB	2450	2530	2500	1400	25977
		RB	2450	2530	2500	1230	19500
60"	1500	FB	2590	2670	2640	1455	33771
		RB	2590	2670	2640	1400	25350

### CLASS 600LB

(unit : mm)

SIZE		BORE	LIFACE TO FACE DIMENSION			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	292	295	292	130	30
		RB	292	295	292	110	24
3"	80	FB	356	359	356	150	58
		RB	356	359	356	130	42
4"	100	FB	432	435	432	195	95
		RB	432	435	432	150	75
6"	150	FB	559	562	559	265	216
		RB	559	562	559	195	133
8"	200	FB	660	664	660	350	412
		RB	660	664	660	265	260
10"	250	FB	787	791	787	415	618
		RB	787	791	787	350	465
12"	300	FB	838	841	838	460	872
		RB	838	841	838	415	713
14"	350	FB	889	892	889	500	1073
		RB	889	892	889	460	933
16"	400	FB	991	994	991	530	1499
		RB	991	994	991	500	1284
18"	450	FB	1092	1095	1092	615	2123
		RB	1092	1095	1092	530	1692
20"	500	FB	1194	1200	1194	695	2771
		RB	1194	1200	1194	615	2118
24"	600	FB	1397	1407	1397	755	4122
		RB	1397	1407	1397	695	3376
26"	650	FB	1448	1461	1448	805	4556
		RB	1448	1461	1448	770	4042
28"	700	FB	1549	1562	1549	850	5315
		RB	1549	1562	1549	805	4250
30"	750	FB	1651	1664	1651	920	7104
		RB	1651	1664	1651	850	5127
32"	800	FB	1778	1794	1778	970	8689
		RB	1778	1794	1778	920	7309
36"	900	FB	2083	2099	2083	1010	11517
		RB	2083	2099	2083	970	8054
40"	1000	FB	2310	2340	2310	1110	13703
		RB	2310	2340	2310	1010	10020
42"	1050	FB	2430	2450	2430	1175	16928
		RB	2430	2450	2430	1110	13950
48"	1200	FB	2720	2740	2720	1255	24762
		RB	2720	2740	2720	1175	17200
56"	1400	FB	3170	3190	3170	1335	32190
		RB	3170	3190	3170	1255	22360
60"	1500	FB	3350	3370	3350	1475	41847
		RB	3350	3370	3350	1335	29068

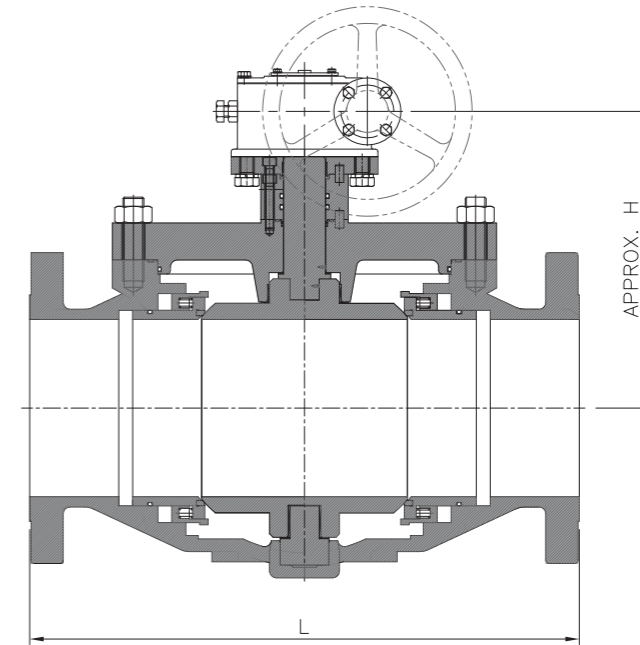
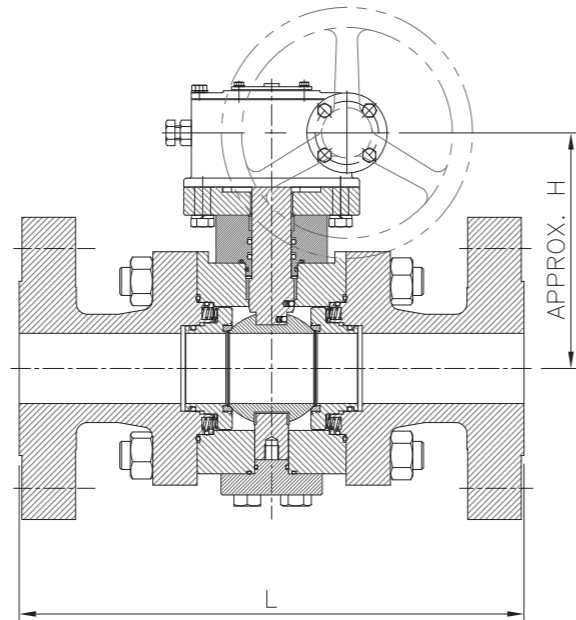
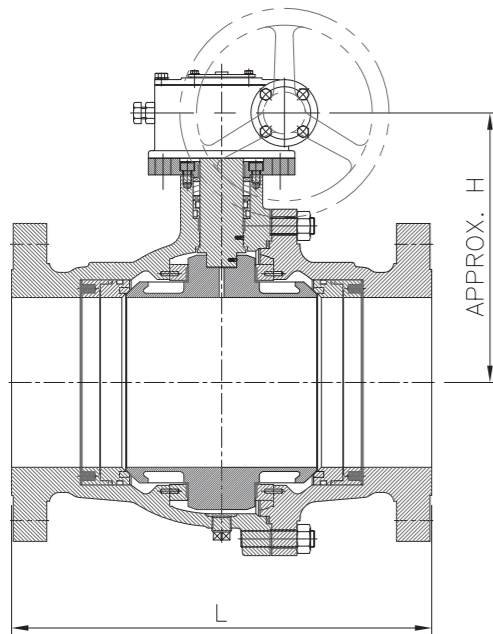
### CLASS 900LB

(unit : mm)

SIZE		BORE	LIFACE TO FACE DIMENSION			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	368	371	368	155	44
		RB	368	371	368	135	37
3"	80	FB	381	384	381	170	79
		RB	381	384	381	150	57
4"	100	FB	457	460	457	210	151
		RB	457	460	457	170	104
6"	150	FB	610	613	610	285	317
		RB	610	613	610	210	197
8"	200	FB	737	740	737	365	552
		RB	737	740	737	285	348
10"	250	FB	838	841	838	440	882
		RB	838	841	838	365	630
12"	300	FB	965	968	965	480	1223
		RB	965	968	965	440	926
14"	350	FB	1029	1038	1029	520	1597
		RB	1029	1038	1029	500	1202
16"	400	FB	1130	1140	1130	575	2090
		RB	1130	1140	1130	520	1547
18"	450	FB	1219	1232	1219	670	2689
		RB	1219	1232	1219	575	2159
20"	500	FB	1321	1334	1321	720	3416
		RB	1321	1334	1321	670	2551
24"	600	FB	1549	1568	1549	780	5476
		RB	1549	1568	1549	720	4289
26"	650	FB	1620	1650	1620	820	7165
		RB	1620	1650	1620	780	5417
28"	700	FB	1730	1750	1730	890	9030
		RB	1730	1750	1730	820	5695
30"	750	FB	1880	1900	1880	960	11425
		RB	1880	1900	1880	890	7647
32"	800	FB	2070	2100	2070	1030	13589
		RB	2070	2100	2070	960	9794
36"	900	FB	2290	2320	2290	1070	15170
		RB	2290	2320	2290	1030	12413
40"	1000	FB	2440	2470	2440	1170	20554
		RB	2440	2470	2440	1070	13427
42"	1050	FB	2560	2590	2560	1215	2370

## Trunnion Type Ball Valve (Side Entry) CLASS 1500LB and 2500LB

## Trunnion Type Ball Valve (Top Entry) CLASS 150LB and 300LB



### CLASS 1500LB

(unit : mm)

SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	368	371	368	160	48
		RB	368	371	368	140	39
3"	80	FB	470	473	470	180	113
		RB	470	473	470	160	76
4"	100	FB	546	549	546	230	200
		RB	546	549	546	180	154
6"	150	FB	705	711	705	305	437
		RB	705	711	705	230	314
8"	200	FB	832	841	832	385	741
		RB	832	841	832	305	591
10"	250	FB	991	1000	991	455	1213
		RB	991	1000	991	385	972
12"	300	FB	1130	1146	1130	510	1714
		RB	1130	1146	1130	455	1304
14"	350	FB	1257	1276	1257	555	2089
		RB	1257	1276	1257	510	1748
16"	400	FB	1384	1407	1384	615	2741
		RB	1384	1407	1384	555	2185
18"	450	FB	1530	1559	1530	720	3831
		RB	1530	1559	1530	615	2950
20"	500	FB	1660	1686	1660	755	5865
		RB	1660	1686	1660	720	4066
24"	600	FB	1940	1972	1940	825	9439
		RB	1940	1972	1940	755	7086
26"	650	FB	2050	2070	2050	865	11464
		RB	2050	2070	2050	825	8125
28"	700	FB	2150	2180	2150	960	14448
		RB	2150	2180	2150	865	8543
30"	750	FB	2250	2280	2250	1020	18713
		RB	2250	2280	2250	960	11471
32"	800	FB	2340	2370	2340	1100	21222
		RB	2340	2370	2340	1020	14691
36"	900	FB	2550	2580	2550	1150	24272
		RB	2550	2580	2550	1100	18617
40"	1000	FB	2800	2830	2800	1220	32886
		RB	2800	2830	2800	1150	28123

### CLASS 2500LB

(unit : mm)

SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	451	454	451	165	78
		RB	451	454	451	145	55
3"	80	FB	578	584	578	205	177
		RB	578	584	578	165	130
4"	100	FB	673	683	673	260	307
		RB	673	683	673	205	231
6"	150	FB	914	927	914	340	690
		RB	914	927	914	260	471
8"	200	FB	1022	1038	1022	420	1167
		RB	1022	1038	1022	340	887
10"	250	FB	1270	1292	1270	540	1995
		RB	1270	1292	1270	420	1458
12"	300	FB	1422	1445	1422	620	2575
		RB	1422	1445	1422	540	1955
14"	350	FB	1540	1570	1540	655	3342
		RB	1540	1570	1540	620	2622
16"	400	FB	1560	1590	1560	735	4385
		RB	1560	1590	1560	655	3278
18"	450	FB	1820	1850	1820	805	6130
		RB	1820	1850	1820	735	4425
20"	500	FB	1870	1900	1870	870	9384
		RB	1870	1900	1870	805	6098
24"	600	FB	2250	2280	2250	930	15103
		RB	2250	2280	2250	870	10628
26"	650	FB	2360	2400	2360	995	18342
		RB	2360	2400	2360	930	12188
28"	700	FB	2480	2510	2480	1060	23117
		RB	2480	2510	2480	995	12814
30"	750	FB	2570	2600	2570	1130	29077
		RB	2570	2600	2570	1060	17206
32"	800	FB	2770	2800	2770	1185	33955
		RB	2770	2800	2770	1130	22037
36"	900	FB	3010	3050	3010	1265	38835
		RB	3010	3050	3010	1185	27929
40"	1000	FB	3330	3370	3330	1320	52618
		RB	3330	3370	3330	1265	43233

### CLASS 150LB

(unit : mm)

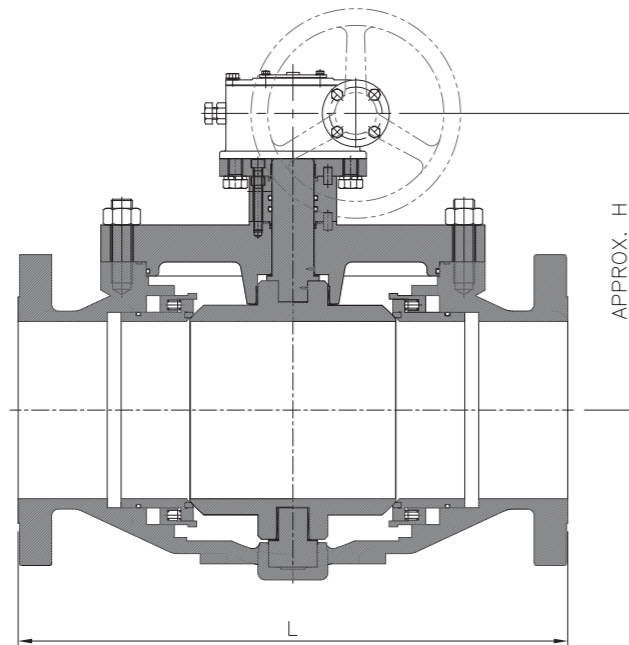
SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	292	295	292	223	31
		RB	292	295	292	190	27
3"	80	FB	356	359	356	260	58
		RB	356	359	356	223	41
4"	100	FB	432	435	432	294	102
		RB	432	435	432	260	73
6"	150	FB	559	562	559	320	211
		RB	559	562	559	294	130
8"	200	FB	660	664	660	373	385
		RB	660	664	660	320	243
10"	250	FB	787	791	787	423	550
		RB	787	791	787	373	427
12"	300	FB	838	841	838	467	750
		RB	838	841	838	423	519
14"	350	FB	889	892	889	510	932
		RB	889	892	889	467	744
16"	400	FB	991	994	991	537	1267
		RB	991	994	991	510	987
18"	450	FB	1092	1095	1092	606	1738
		RB	1092	1095	1092	537	1343
20"	500	FB	1194	1200	1194	653	2252
		RB	1194	1200	1194	606	1680
24"	600	FB	1397	1407	1397	735	3540
		RB	1397	1407	1397	653	2398
26"	650	FB	1448	1461	1448	783	4098
		RB	1448	1461	1448	735	2898
28"	700	FB	1549	1562	1549	859	5167
		RB	1549	1562	1549	783	3398
30"	750	FB	1651	1664	1651	921	6239
		RB	1651	1664	1651	859	4082
32"	800	FB	1778	1794	1778	975	7611
		RB	1778	1794	1778	921	6200
36"	900	FB	2083	2099	2083	1054	9914
		RB	2083	2099	2083	975	7319
40"	1000	FB	2310	2340	2310	1139	13269
		RB	2310	2340	2310	1054	10723
42"	1050	FB	2430	2450	2430	1156	15160
		RB	2430	2450	2430	1139	11800
48"	1200	FB	2720	2740	2720	1346	23830
		RB	2720	2740	2720	1156	16713
56"	1400	FB	3170	3190	3170	1468	30979
		RB	3170	3190	3170	1346	23400
60"	1500	FB	3350	3370	3350	1603	40273
		RB	3350	3370	3350	1468	25738

### CLASS 300LB

(unit : mm)

SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	292	295	292	223	36
		RB	292	295	292	192	31
3"	80	FB	356	359	356	261	64
		RB	356	359	356	224	47
4"	100	FB	432	435	432	297	115
		RB	432	435	432	261	86
6"	150	FB	559	562	559	343	243
		RB	559	562	559	297	158
8"	200	FB	660	664	660	388	436
		RB	660	664	660	343	289
10"	250	FB	787	791	787	426	605
		RB	787	791	787	388	509
12"	300	FB	838	841	838	476	816
		RB	838	841	838	426	620
14"	350	FB	889	892	889	522	1002
		RB	889	892	889	476	800
16"	400	FB	991	994	991	567	1394
		RB	991	994	991	522	1094
18"	450	FB	1092	1095	1092	620	1912
		RB	1092	1095	1092	567	1467
20"	500	FB	1194	1200	1194	682	2467
		RB	1194	1200	1194	620	1851
24"	600	FB	1397	1407	1397	756	3952
		RB	1397	1407	1397	682	2773
26"	650	FB	1448	1461	1448	806	4668
		RB	1448	1461	1448	756	3351
28"	700	FB	1549	1562	1549	870	5714
		RB	1549	1562	1549	806	3929
30"	750	FB	1651	1664	1651	921	6910
		RB	1651	1664	1651	870	4823
32"	800	FB	1778	1794	1778	999	8545
		RB	1778	1794	1778	921	7000
36"	900	FB	2083	2099	2083	1094	11150
		RB	2083	2099	2083	999	8518
40"	1000	FB	2310	2340	2310	1181	14907
		RB	2310	2340	2310	1094	11883
42"	1050	FB	2430	2450	2430	1203	17419
		RB	2430	2450	2430	1181	13800
48"	1200	FB	2720	2740	2720	1378	26617
		RB	2720	2740	2720	1203	18048
56"	1400	FB	3170	3190	3170	1503	34602
		RB	3170	3190	3170	1378	26811
60"	1500	FB	3350	3370	3350	1642	44982
		RB	3350	3370	3350	1503	29490

## Trunnion Type Ball Valve (Top Entry) CLASS 600LB and 900LB



### CLASS 600LB

(unit : mm)

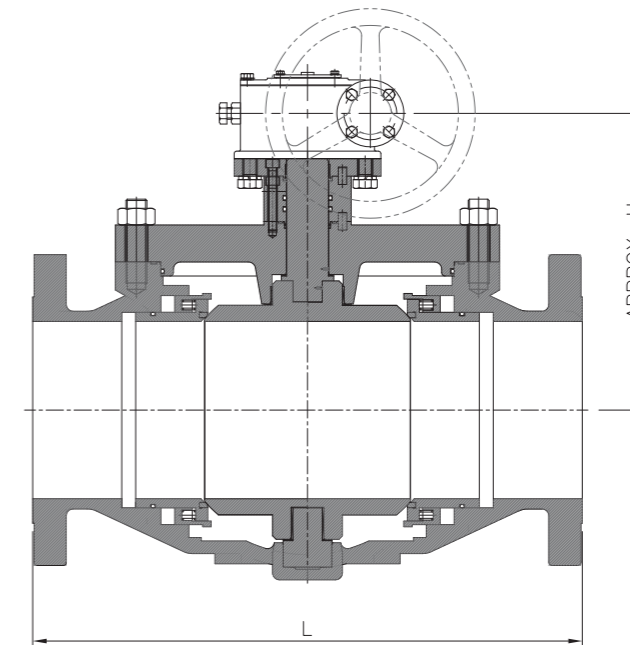
SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	292	295	292	224	41
		RB	292	295	292	200	36
3"	80	FB	356	359	356	262	73
		RB	356	359	356	224	55
4"	100	FB	432	435	432	312	135
		RB	432	435	432	262	102
6"	150	FB	559	562	559	348	275
		RB	559	562	559	312	172
8"	200	FB	660	664	660	394	500
		RB	660	664	660	348	340
10"	250	FB	787	791	787	436	736
		RB	787	791	787	394	601
12"	300	FB	838	841	838	478	1006
		RB	838	841	838	436	780
14"	350	FB	889	892	889	543	1199
		RB	889	892	889	478	1054
16"	400	FB	991	994	991	582	1673
		RB	991	994	991	543	1416
18"	450	FB	1092	1095	1092	659	2278
		RB	1092	1095	1092	582	1936
20"	500	FB	1194	1200	1194	713	3210
		RB	1194	1200	1194	659	2680
24"	600	FB	1397	1407	1397	775	4861
		RB	1397	1407	1397	713	3664
26"	650	FB	1448	1461	1448	839	5622
		RB	1448	1461	1448	775	4428
28"	700	FB	1549	1562	1549	907	6749
		RB	1549	1562	1549	839	5192
30"	750	FB	1651	1664	1651	971	8161
		RB	1651	1664	1651	907	6081
32"	800	FB	1778	1794	1778	1032	10375
		RB	1778	1794	1778	971	8200
36"	900	FB	2083	2099	2083	1153	13270
		RB	2083	2099	2083	1032	10807
40"	1000	FB	2310	2340	2310	1249	18209
		RB	2310	2340	2310	1153	15250
42"	1050	FB	2430	2450	2430	1278	21305
		RB	2430	2450	2430	1249	18200
48"	1200	FB	2720	2740	2720	1473	31467
		RB	2720	2740	2720	1278	29300
56"	1400	FB	3170	3190	3170	1607	40908
		RB	3170	3190	3170	1473	34194
60"	1500	FB	3350	3370	3350	1754	53180
		RB	3350	3370	3350	1607	37610

### CLASS 900LB

(unit : mm)

SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	368	371	368	246	59
		RB	368	371	368	220	48
3"	80	FB	381	384	381	266	105
		RB	381	384	381	246	74
4"	100	FB	457	460	457	315	189
		RB	457	460	457	266	137
6"	150	FB	610	613	610	356	401
		RB	610	613	610	315	267
8"	200	FB	737	740	737	401	711
		RB	737	740	737	356	514
10"	250	FB	838	841	838	462	1000
		RB	838	841	838	401	843
12"	300	FB	965	968	965	544	1440
		RB	965	968	965	462	1097
14"	350	FB	1029	1038	1029	580	1820
		RB	1029	1038	1029	544	1538
16"	400	FB	1130	1140	1130	640	2657
		RB	1130	1140	1130	580	2065
18"	450	FB	1219	1232	1219	689	3583
		RB	1219	1232	1219	640	2934
20"	500	FB	1321	1334	1321	752	4606
		RB	1321	1334	1321	689	3696
24"	600	FB	1549	1568	1549	836	7708
		RB	1549	1568	1549	752	5701
26"	650	FB	1620	1650	1620	906	8996
		RB	1620	1650	1620	836	6889
28"	700	FB	1730	1750	1730	992	10979
		RB	1730	1750	1730	906	8077
30"	750	FB	1880	1900	1880	1061	13355
		RB	1880	1900	1880	992	9162
32"	800	FB	2070	2100	2070	1117	16421
		RB	2070	2100	2070	1061	12400
36"	900	FB	2290	2320	2290	1230	21784
		RB	2290	2320	2290	1117	15800
40"	1000	FB	2440	2470	2440	1318	28972
		RB	2440	2470	2440	1230	23148
42"	1050	FB	2560	2590	2560	1425	32159
		RB	2560	2590	2560	1318	25474
48"	1200	FB	2920	2950	2920	1458	40490
		RB	2920	2950	2920	1425	36080
56"	1400	FB	3300	3330	3300	1681	65637
		RB	3300	3330	3300	1458	49752
60"	1500	FB	3450	3480	3450	1828	85328
		RB	3450	3480	3450	1681	54723

## Trunnion Type Ball Valve (Top Entry) CLASS 1500LB and 2500LB



### CLASS 1500LB

(unit : mm)

SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	368	371	368	251	63
		RB	368	371	368	231	52
3"	80	FB	470	473	470	290	139
		RB	470	473	470	251	95
4"	100	FB	546	549	546	343	241
		RB	546	549	546	290	192
6"	150	FB	705	711	705	389	598
		RB	705	711	705	343	363
8"	200	FB	832	841	832	464	1059
		RB	832	841	832	389	691
10"	250	FB	991	1000	991	524	1444
		RB	991	1000	991	464	1205
12"	300	FB	1130	1146	1130	606	2197
		RB	1130	1146	1130	524	1617
14"	350	FB	1257	1276	1257	664	3058
		RB	1257	1276	1257	606	2225
16"	400	FB	1384	1407	1384	705	4252
		RB	1384	1407	1384	664	3297
18"	450	FB	1530	1559	1530	770	5608
		RB	1530	1559	1530	705	4397
20"	500	FB	1660	1686	1660	838	7110
		RB	1660	1686	1660	770	6207
24"	600	FB	1940	1972	1940	944	12429
		RB	1940	1972	1940	838	9205
26"	650	FB	2050	2070	2050	1018	14293
		RB	2050	2070	2050	944	11123
28"	700	FB	2150	2180	2150	1085	18021
		RB	2150	2180	2150	1018	13042
30"	750	FB	2250	2280	2250	1192	21760
		RB	2250	2280	2250	1085	15666
32"	800	FB	2340	2370	2340	1263	26544
		RB	2340	2370	2340	1192	23797
36"	900	FB	2550	2580	2550	1377	34590
		RB	2550	2580	2550	1263	28092
40"	1000	FB	2800	2830	2800	1476	46280
		RB	2800	2830	2800	1377	41155

### CLASS 2500LB

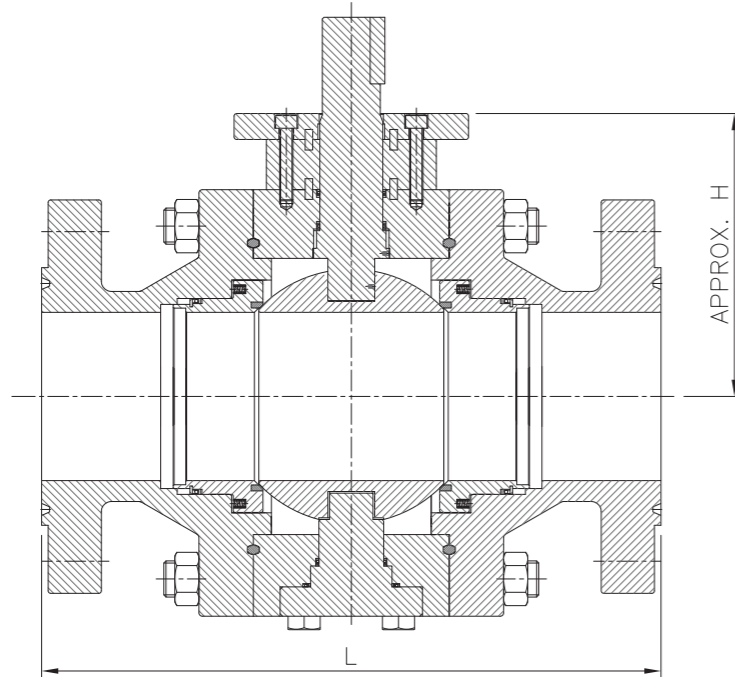
(unit : mm)

SIZE		BORE	L(FACE TO FACE DIMENSION)			H	WEIGHT (kg)
inch	mm		RAISED FACE	RING JOINT	BUTT WELDING END		
2"	50	FB	451	454	451	256	111
		RB	451	454	451	230	85
3"	80	FB	578	584	578	321	219
		RB	578	584	578	256	164
4"	100	FB	673	683	673	378	438
		RB	673	683	673	321	302
6"	150	FB	914	927	914	465	974
		RB	914	927	914	378	637
8"	200	FB	1022	1038	1022	541	1662
		RB	1022	1038	1022	465	1315
10"	250	FB	1270	1292	1270	667	2814
		RB	1270	1292	1270	541	2315
12"	300	FB	1422	1445	1422	736	4019
		RB	1422	1445	1422	667	3479
14"	350	FB	1540	1570	1540	823	4991
		RB	1540	1570	1540	736	4212
16"	400	FB	1560	1590	1560	898	6786
		RB	1560	1590	1560	823	4946
18"	450	FB	1820	1850	1820	959	9311
		RB	1820	1850	1820	898	6596
20"	500	FB	1870	1900	1870	1045	12066
		RB	1870	1900	1870	959	9311
24"	600	FB	2250	2280	2250	1133	18967
		RB	2250	2280	2250	1045	13808
26"	650	FB	2360	2400	2360	1223	21955
		RB	2360	2400	2360	1133	16685
28"	700	FB	2480	2510	2480	1306	27682
		RB	2480	2510	2480	1223	19563
30"	750	FB	2570	2600	2570	1449	33425
		RB	2570	2600	2570	1306	23500
32"	800	FB	2770	2800	2770	1536	40774
		RB	2770	2800	2770	1449	35695
36"	900	FB	3010	3050	3010	1649	53116
		RB	3010	3050	3010	1536	42139
40"	1000	FB	3330	3370	3330	1786	71089
		RB	3330	3370	3330	1649	61733



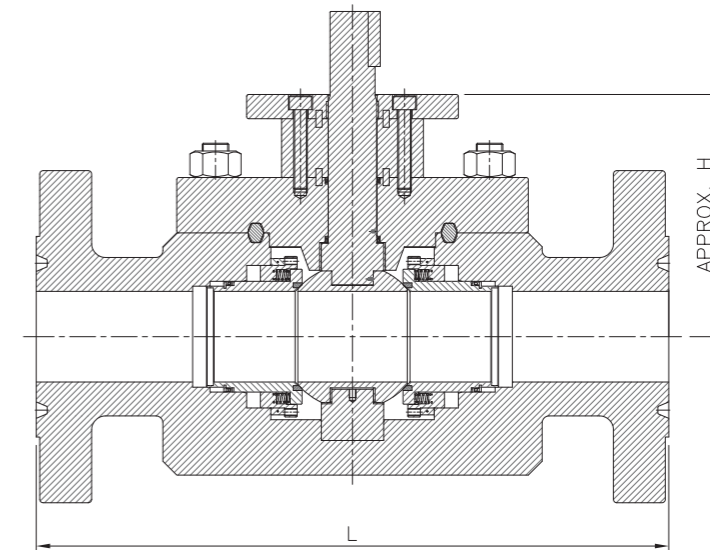
## Subsea Ball Valve (Side Entry)

API 2000, 3000, 5000, 10000,  
15000 and 20000



## Subsea Ball Valve (Top Entry)

API 2000, 3000, 5000, 10000,  
15000 and 20000



### VALVE DIMENSIONS

(unit : mm)

SIZE		BORE	API 2000			API 3000			API 5000		
inch	mm		L	H	WEIGHT (kg)	L	H	WEIGHT (kg)	L	H	WEIGHT (kg)
2 1/16"	52	FB	295	155	42	371	160	48	371	165	70
		RB	295	135	35	371	140	37	371	145	50
3 1/8"	79	FB	359	170	75	435	180	102	473	205	159
		RB	359	155	54	435	160	72	473	165	117
4 1/16"	103	FB	435	210	143	511	230	180	549	260	276
		RB	435	170	99	511	180	146	549	205	208
5 1/8"	130	FB	562	250	222	613	270	287	727	300	449
		RB	562	210	143	613	230	222	727	260	316
7 1/16"	179	FB	664	315	413	714	335	530	813	370	836
		RB	664	285	261	714	305	430	813	340	587

SIZE		BORE	API 10000			API 15000			API 20000		
inch	mm		L	H	WEIGHT (kg)	L	H	WEIGHT (kg)	L	H	WEIGHT (kg)
2 1/16"	52	FB	521	200	94	483	210	103	584	221	113
		RB	521	175	66	483	184	73	584	193	80
3 1/8"	79	FB	619	245	212	598	257	234	775	270	257
		RB	619	200	156	598	210	172	775	221	189
4 1/16"	103	FB	670	310	368	737	326	405	876	342	446
		RB	670	245	277	737	257	305	876	270	335
5 1/8"	130	FB	737	360	599	889	378	659	1038	397	726
		RB	737	310	421	889	326	463	1038	342	510
7 1/16"	179	FB	889	445	1115	1038	467	1227	1270	490	1350
		RB	889	410	782	1038	430	860	1270	451	946

### VALVE DIMENSIONS

(unit : mm)

SIZE		BORE	API 2000			API 3000			API 5000		
inch	mm		L	H	WEIGHT (kg)	L	H	WEIGHT (kg)	L	H	WEIGHT (kg)
2 1/16"	52	FB	295	246	56	371	251	62	371	256	100
		RB	295	220	46	371	231	49	371	230	77
3 1/8"	79	FB	359	266	100	435	290	125	473	321	197
		RB	359	246	70	435	251	90	473	256	148
4 1/16"	103	FB	435	315	180	511	343	217	549	378	394
		RB	435	266	130	511	290	182	549	321	272
5 1/8"	130	FB	562	335	280	613	366	378	727	421	635
		RB	562	315	192	613	343	264	727	378	423
7 1/16"	179	FB	664	378	528	714	426	746	813	503	1186
		RB	664	356	371	714	389	501	813	465	878

SIZE		BORE	API 10000			API 15000			API 20000		
inch	mm		L	H	WEIGHT (kg)	L	H	WEIGHT (kg)	L	H	WEIGHT (kg)
2 1/16"	52	FB	521	305	133	483	320	147	584	336	161
		RB	521	275	102	483	289	112	584	303	123
3 1/8"	79	FB	619	385	263	598	404	289	775	424	318
		RB	619	305	197	598	320	216	775	336	238
4 1/16"	103	FB	670	455	526	737	478	578	876	502	636
		RB	670	350	362	737	368	399	876	386	439
5 1/8"	130	FB	737	505	847	889	530	932	1038	557	1025
		RB	737	455	564	889	478	620	1038	602	682
7 1/16"	179	FB	889	605	1582	1038	635	1740	1270	667	1914
		RB	889	550	1171	1038	577	1288	1270	606	1417

