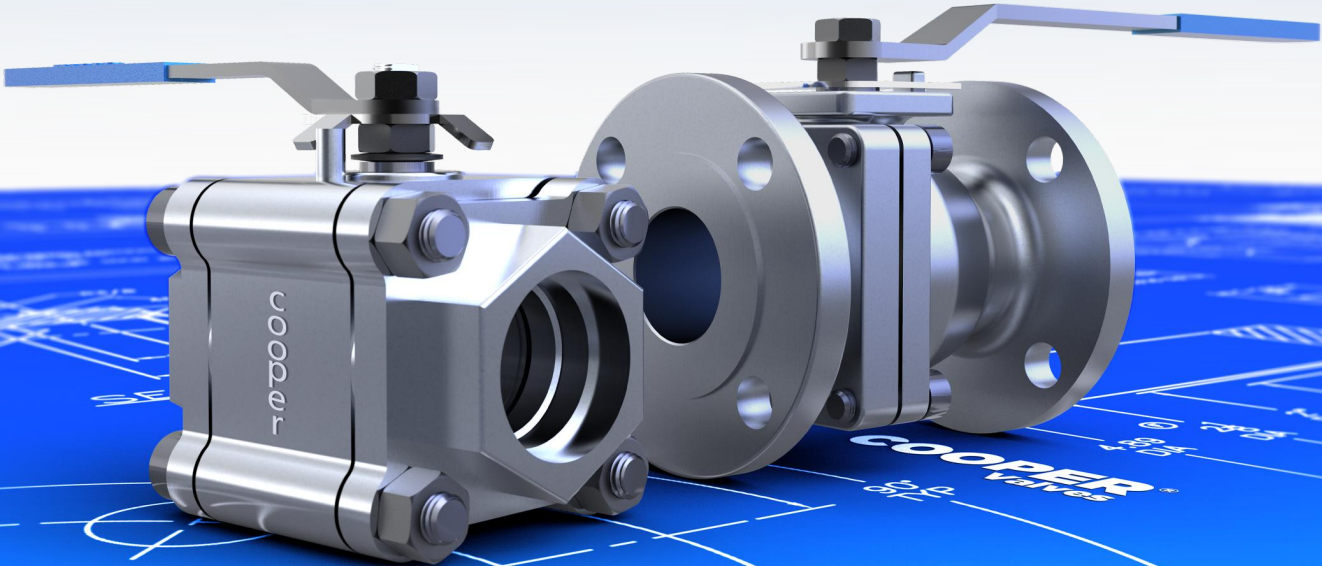


Ball Valve



Floating Ball Valve

The ball of a ball valve is floating and, with the action of the medium pressure, can produce a certain displacement and is closely pressed against the sealing face at the outlet to make it surely sealed.

The floating ball valve is simple in structure and good in tightness, but it needs to be considered whether the material of the outlet seal ring is bearable to the load of the ball borne working medium, as it is all transmitted to the seal ring, and, in case of a higher pressure shock, the ball may get deviated. This kind of structure is usually used for the middle and low pressure valves.

The main characteristics of the ball valve come at a compact structure of itself, a reliable seal, a simple structure, easy repair and, as both sealing face and ball face are often in the closed state, is uneasy to be made eroded, easy to be operated and repaired, suitable for water solvent, acid, natural gas etc. general working media, and those as well working with severe conditions , as oxygen, peroxide, methane, ethylene etc., broadly used in every industry.



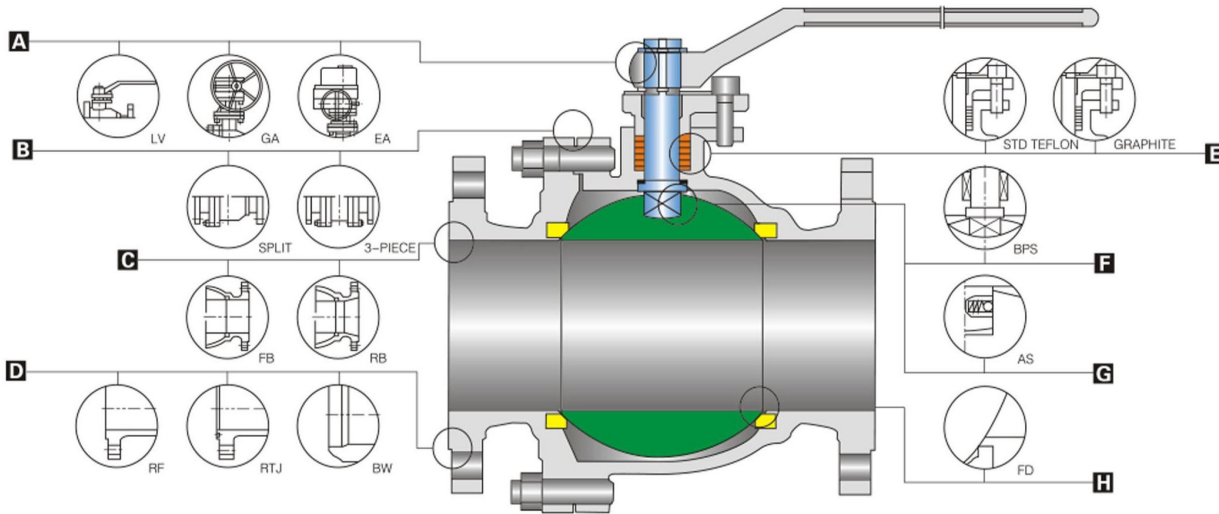
Floating Ball Valve, CS, FL

API 608 & API 6D, British Standard BS 5351 and generally conform to American Society of Mechanical Engineers standard ASME B 16.34. Valves are available in a complete range of body/bonnet materials and trims.

Optional packing and gasket materials are available for a full range of service conditions.

Available Modifications for ADVANCED TECHNOLOGY Steel Valves

- *Trim Changes
- *End Connection Modifications
- *Packing and Gasket Changes
- *Operator Mounting
- *Handwheel Extensions
- *Pressure Equalizing
- *Anti-Static or Firesafe Design
- *Customer Specified Coatings
- *Weld End Bore Changes
- *Oxygen & Chlorine Cleaning & Packaging



A Operating

Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services.

B BODY & BONNET

Split 2 or 3-piece, split body & bonnet for 12" & Small. Disassembles easily for repair components.

C BORE

Full Bore or Reduced Bore. Full-bore design provides exceptional flow control.

D End Connections

A choice of Flanged, RTJ flanged or Butt welding end for piping flexibility.

E Packing

STD Packing Multiple V-TEFLON packing, combined with live loading, maintains packing compression under high-cycle and severe service applications. Graphite packing used for high-temperature situation.

F BPS

Blow-out Proof Stem. A pressure-safe stem shoulder design that protects against failure under excess pressure.

G AS

Anti Static. A metallic contact is always granted between ball and stem/body to discharge eventual statics build-up during service.

H FD

Fire safe designed to API 607 or API 6FA BS 6755 grant their operation suitability in case of fire. Secondary metal-to-metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

Floating Ball Valve 150Lb/300Lb

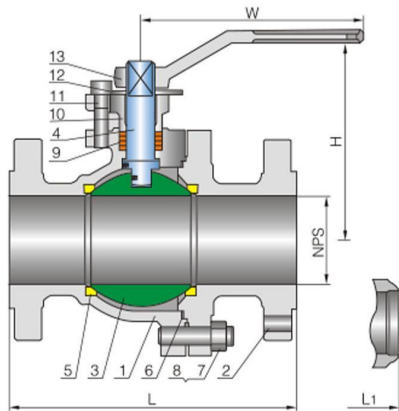
Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14343
- ★ FIRE SAFETY, API 607, API 6FA
- ★ ANTI STATIC, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ FLOATING BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFETY CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR

Materials of Parts



No	Part Name	ASTM Material				
		Carbon Steel		Alloy steel	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Ball	A182-F304 ¹⁾	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316
4	Stem	A276-304	A276-304	A276-316	A276-304	A276-316
5	Seat Ring	R.PTFE				
6	Gasket	Graphite+304 ²⁾		PTFE	Graphite+304 ²⁾	
7	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
8	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
9	Packing	PTFE				
10	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
11	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
12	Located Block	Carbon Steel		Carbon Steel+Zn	A351-CF8	
13	Handle	Carbon Steel				

Notes: 1). A105+ENP optional.
2). Spiral wound construction.

Dimensions Data ANSI Class 150Lb

NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
DN	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	in
	108	117	127	165	178	190	203	229	394	457	533	610	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	16.50	in
	55	55	70	90	105	155	185	205	255	280	345	420	mm
W	5	5	6	8	14	16	20	20	24	32	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	800	mm
WT(kg)	2.3	3	4.5	7	9.5	15	19	33	93	160	200	280	RF
	1.8	2.8	3.7	6.2	8.5	14	21	35	98	170	225	295	BW

Dimensions Data ANSI Class 300Lb

NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
DN	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	in
	140	152	165	190	216	241	283	305	403	502	568	648	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	16.50	in
	55	55	70	90	105	153	187	206	255	280	345	420	mm
W	5	5	6	8	14	16	20	20	24	32	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	800	mm
WT(kg)	2.5	3.5	5.5	10.5	14.5	23.5	30	55	118	200	250	330	RF
	1.8	2	3.2	5.5	8.7	15	18	36	85	152	182	232	BW

Floating Ball Valve 600Lb

Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14343
- ★ FIRE SAFETY, API 607, API 6FA
- ★ ANTI STATIC, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

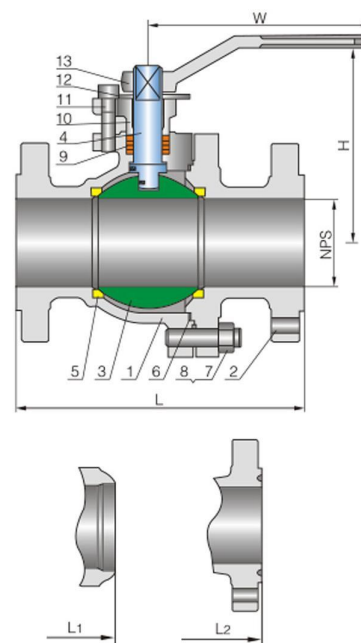
Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ FLOATING BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFETY CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR

Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy Steel	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Ball	A182-F304 ¹⁾	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316
4	Stem	A276-304	A276-304	A276-316	A276-304	A276-316
5	Seat Ring	R.PTFE				
6	Gasket	(Graphite+304) ²⁾		PTFE	(Graphite+304) ²⁾	
7	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
8	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
9	Packing	PTFE				
10	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
11	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
12	Located Block	Carbon Steel		Carbon Steel+Zn	A351-CF8	
13	Handle	Carbon Steel		A182-F304		

- Notes: 1). A105+ENP optional.
2). Spiral wound construction.

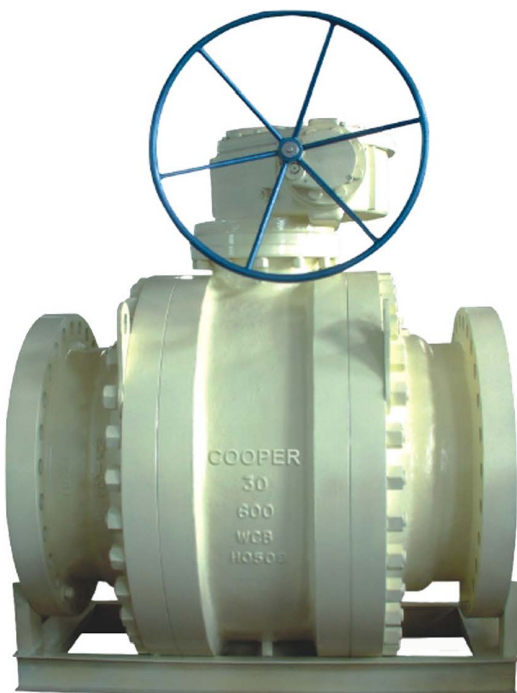


Dimensions Data ANSI Class 600Lb

NPS	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
DN	15	20	25	40	50	65	80	100	150	200	250	300	mm
L/L ₁ (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.50	31.50	33.50	in
	165	190	216	241	292	330	356	432	559	660	787	838	mm
L ₂ (RTJ)	6.62	7.62	8.62	9.62	11.62	13.12	14.12	17.12	22.12	26.62	31.62	33.62	in
	165.5	190.5	215.5	240.5	295	333	359	435	562	665.5	790.5	840.5	mm
H	2.38	2.38	3.00	4.00	4.75	6.88	8.38	9.25	11.38	12.4	15.52	17.92	in
	61.5	61.5	78	101	120	174	212	234	289	310	388	448	mm
W	5	6	8	14	16	20	24	24	32	32	34	36	in
	130	160	200	350	400	500	600	600	800	800	850	900	mm
WT(kg)	3.3	4.5	7.2	13.5	19	31	39	71	153	253	380	610	RF/RTJ
	2.6	3.1	4.8	8	13	22	27	53	120	202	330	570	BW

Trunnion Ball Valve

The fixed ball valve is a new generation high performance ball valve, suitable for a long transportation and general industrial pipelines, and a special consideration has been made in the design of it for the strength, safety and the severe situation resistance, suitable for various corrosive and non-corrosive media. Compared to the floating one, the acting force the before-valve fluid pressure produces on the ball at work is completely transmitted onto the bearing, so will not make the ball moving towards the seat ring and the seat ring will not bear an excessive pressure, resulting in a small torque, a small deformation with the seat ring, a stable tightness and a long duration with it, suitable for the high pressure and a large aperture applications. The advanced spring and seat ring assembly is of a self-tightening property and carries out an upstream sealing. Two seat rings are available with each valve and sealing can be made in every direction, getting the installation without flowing direction limit and in both ways.



There are two-blocks and three-blocks two structures of the fixed ball valve body, the middle flange is connected with bolts and the seal is made of reinforced PTFE and inlaid in a stainless steel ring. A spring is set behind the SS ring to have the seat ring closely against the ball to keep sealing, a PTFE bearing is set with both up and lower stems to reduce friction and make the operation labor saved and a regulation piece is set on the bottom of the small axis to make sure of the contacted position between the ball and the seal ring. The fixed ball valve can be used to cut off medium or let it through in the transportation pipeline in food, pharmacy, petroleum, chemical industry, natural gas, steel-iron, environmental protection, paper-making, etc. applications, and also to clean the sealing face by way of injecting a detergent or a lubricant.

Trunnion Ball Valve, CS, TM

Design

ADVANCED TECHNOLOGY steel ball valve are designed and manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute Standard API 608 & API 6D, British Standard BS 5351 and generally conform to American Society of Mechanical Engineers standard ASME B 16.34, Valves are available in a complete range of body/bonnet materials and trims.

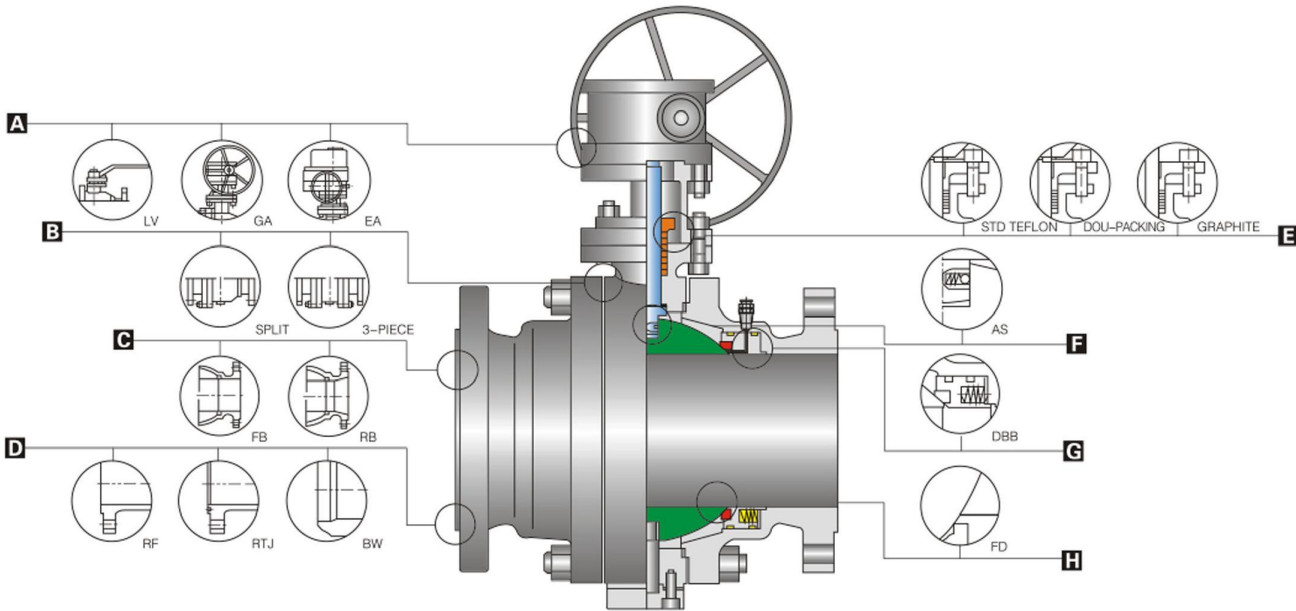
Range of Materials

Standard body/bonnet materials include carbon steel, low alloy and stainless steels. For special applications they can be supplied in other grades or alloy and stainless steel. There's a full range of trim materials to match any service. Optional packing and gasket materials are available for a full range of service conditions.

Available Modifications for ADVANCED TECHNOLOGY Steel Valves

- *Trim Changes
- *End Connection Modifications
- *Packing and Gasket Changes
- *Operator Mounting
- *Handwheel Extensions

- *Pressure Equalizing
- *AS or FD
- *Customer Specified Coatings
- *Weld End Bore Changes
- *Oxygen & Chlorine Cleaning & Packaging



A Operating

Extended lever for easy operation. Also available with gear, motor actuators, pneumatic or hydraulic actuators for more difficult services.

B Body & Bonnet

Split or 3-piece, split body & bonnet for 12" & Small. Disassembles easily for repair or replacement of internal components.

C Bore

Full Bore or Reduced Bore. Full-bore design provides exceptional flow control.

D End Connections

A choice of Flanged, RTJ flanged or Buttwelding end for piping flexibility.

E Packing

STD Packing Multiple V-TEFLON packing, combined with live loading, maintains packing compression under high-cycle and severe service applications. Graphite packing used for high-temperature situation.

F AS

Anti Static. A metallic contact is always granted between ball and stem/body to discharge eventual statics build-up during service.

G DBB

Double Block & Bleed. The body cavity is isolated when the ball is in either fully closed or fully opened position, the medium entrapped in it can easily be bled to avoid over pressure.

H FD

Fire Safety. Designed to API 607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal-to-metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

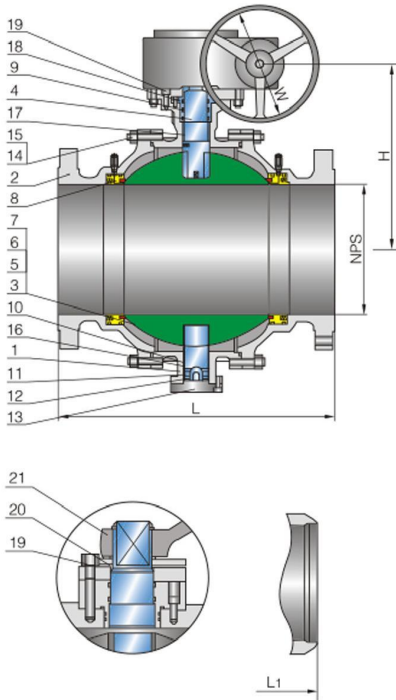
Trunnion Mounted Ball Valve 150Lb

Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14313
- ★ FIRE SAFETY, API 607, API 6FA
- ★ ANTI STATICS, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ THREE PIECES BODY FOR 12" & ABOVE
- ▲ TRUNNION MOUNTED BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFETY CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR



Materials of Parts

No	Part Name	ASTM Material					
		Carbon Steel		Alloy Steel	Stainless Steel		
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
3	Ball	A182-F304 ¹⁾	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316	
4	Stem	A276-304	A276-304	A276-316	A276-304	A276-316	
5	Seat	A105+ENP	A350 LF2+ENP	A182-F316	A182-F304	A182-F316	
6	Seat Insert	PTFE		R.PTFE	Glass Filled PTFE		
7	Seat Spring	A313-304	A313-304	A313-316	A313-316	A313-316	
8	Seat O-Ring	NBR	Viton	Viton	Viton	Viton	
9	Stem O-Ring	NBR	Viton	Viton	Viton	Viton	
10	Bonnet Gasket	(Graphite+304) ²⁾		(Graphite+316) ²⁾	(Graphite+304) ²⁾	(Graphite+316) ²⁾	
11	Bonnet O-Ring	NBR	Viton	Viton	Viton	Viton	
12	Antistatic Spring	A313-304	A313-304	A313-316	A313-316	A313-316	
13	Lower Cover	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
14	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8	
15	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8	
16	Trunnion	A276-304		A276-316	A276-304	A276-316	
17	Trunnion Bearing	304+PTFE		316+PTFE	304+PTFE	316+PTFE	
18	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
19	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8	
20	Located Block	Carbon Steel		Carbon Steel+Zn	A351-CF8		
21	Lever	Carbon Steel+Zn					A351-CF8

Notes: 1). A105+ENP optional.
2). Spiral wound construction.

Dimensions Data ANSI Class 150Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in
	178	190	203	229	394	457	533	610	686	762	864	914	1067	1143	1245	1295	1372	1524	mm
L ₁ (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	457	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
H	7.00	7.50	8.25	9.25	20.88	24.62	25.62	30.75	31.00	36.25	38.25	43.38	45.25	50.75	55.12	64.12	70.88	80.75	in
	177	190	210	235	530	625	650	780	790	920	970	1100	1150	1290	1400	1630	1840	2050	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	32	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	800	800	800	mm
WT(kg)	15	19	27	38	81	140	160	205	260	390	510	750	1200	1400	1860	2100	2530	2970	RF
	13.5	15.5	24.5	32.5	76	132	147	182	241	370	495	726	1125	1250	1640	1930	2390	2760	BW

Trunnion Mounted Ball Valve 300Lb

Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14313
- ★ FIRE SAFETY, API 607, API 6FA
- ★ ANTI STATICS, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

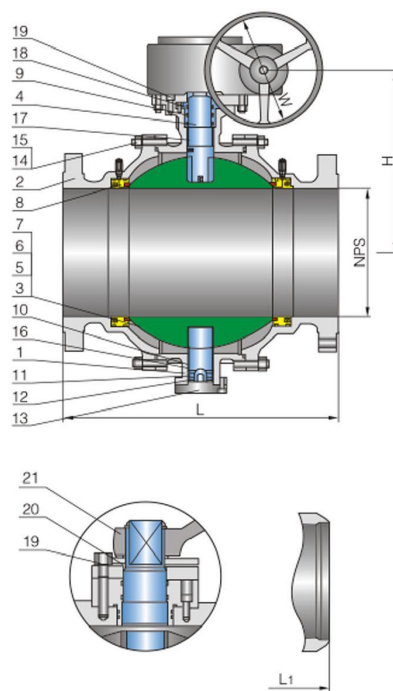
Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ THREE PIECES BODY FOR 12" & ABOVE
- ▲ TRUNNION MOUNTED BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFETY CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR

Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy Steel	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Ball	A182-F304 ¹⁾	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316
4	Stem	A276-304	A276-304	A276-316	A276-304	A276-316
5	Seat	A105+ENP	A350 LF2+ENP	A182-F316	A182-F304	A182-F316
6	Seat Insert	PTFE		R.PTFE	Glass Filled PTFE	
7	Seat Spring	A313-304	A313-304	A313-316	A313-316	A313-316
8	Seat O-Ring	NBR	Viton	Viton	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton	Viton	Viton
10	Bonnet Gasket	(Graphite+304) ²⁾		(Graphite+316) ²⁾	(Graphite+304) ²⁾	(Graphite+316) ²⁾
11	Bonnet O-Ring	NBR	Viton	Viton	Viton	Viton
12	Antistatic Spring	A313-304	A313-304	A313-316	A313-316	A313-316
13	Lower Cover	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
14	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
15	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
16	Trunnion	A276-304		A276-316	A276-304	A276-316
17	Trunnion Bearing	304+PTFE		316+PTFE	304+PTFE	316+PTFE
18	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
19	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
20	Located Block	Carbon Steel		Carbon Steel+Zn	A351-CF8	
21	Lever	Carbon Steel+Zn		A351-CF8		

Notes: 1). A105+ENP optional.
2). Spiral wound construction.



Dimensions Data ANSI Class 300Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	502	568	648	762	838	914	991	1143	1245	1346	1397	1524	-	mm
L ₁ (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	-	in
	216	241	283	305	403	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	-	mm
H	7.00	7.50	8.25	9.25	20.88	24.62	25.62	30.75	31.00	36.25	38.25	43.38	45.25	50.75	55.12	64.12	70.88	-	in
	177	190	210	235	530	625	650	780	790	920	970	1100	1150	1290	1400	1630	1800	-	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	-	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	800	800	-	mm
WT(kg)	19	24	34	48	101	175	200	255	325	485	635	935	1500	1750	2225	2450	2870	-	RF
	14	16	25	34	82	145	155	185	238	375	516	782	1280	1375	1825	2180	2260	-	BW

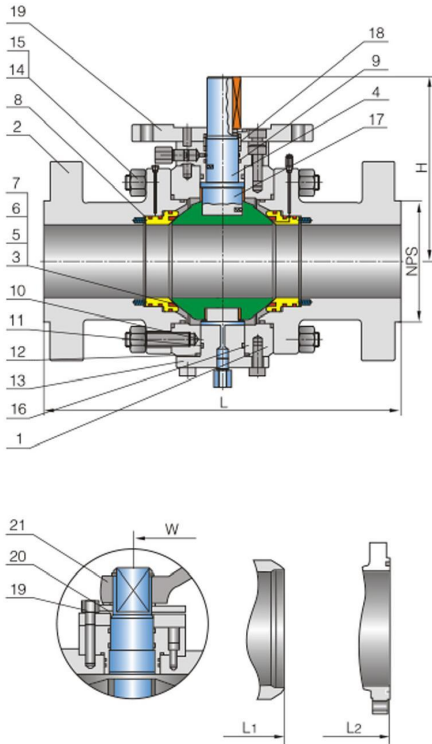
Trunnion Mounted Ball Valve 600Lb

Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14313
- ★ FIRE SAFETY, API 607, API F6A
- ★ ANTI STATICS, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ THREE PIECES BODY FOR 12" & ABOVE
- ▲ TRUNNION MOUNTED BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFETY CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR



Materials of Parts

No	Part Name	ASTM Material					
		Carbon Steel		Alloy Steel	Stainless Steel		
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
3	Ball	A182-F304 ¹⁾	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316	
4	Stem	A276-304	A276-304	A276-316	A276-304	A276-316	
5	Seat	A105+ENP	A350 LF2+ENP	A182-F316	A182-F304	A182-F316	
6	Seat Insert	PTFE		R.PTFE	Glass Filled PTFE		
7	Seat Spring	A313-304	A313-304	A313-316	A313-316	A313-316	
8	Seat O-Ring	NBR	Viton	Viton	Viton	Viton	
9	Stem O-Ring	NBR	Viton	Viton	Viton	Viton	
10	Bonnet Gasket	(Graphite+304) ²⁾		(Graphite+316) ²⁾	(Graphite+304) ²⁾	(Graphite+316) ²⁾	
11	Bonnet O-Ring	NBR	Viton	Viton	Viton	Viton	
12	Antistatic Spring	A313-304	A313-304	A313-316	A313-316	A313-316	
13	Lower Cover	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
14	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8	
15	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8	
16	Trunnion	A276-304		A276-316	A276-304	A276-316	
17	Trunnion Bearing	304+PTFE		316+PTFE	304+PTFE	316+PTFE	
18	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M	
19	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8	
20	Located Block	Carbon Steel		Carbon Steel+Zn	A351-CF8		
21	Lever	Carbon Steel+Zn			A351-CF8		

Notes: 1). A105+ENP optional.
2). Spiral wound construction.

Dimensions Data ANSI Class 600Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	7.12	7.62	8.50	9.50	21.25	25.00	26.12	31.12	31.88	36.38	38.75	44.50	46.62	52.50	57.00	in
	180	193	215	241	540	635	665	790	810	925	985	1130	1185	1335	1450	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	mm
WT(kg)	26	35	58	81	142	287	540	780	1000	1300	1700	2100	3400	3800	4500	RF/RTJ
	19	25	42	51	85	200	395	610	805	1010	1350	1656	2775	3125	3790	BW

Trunnion Mounted Ball Valve 900Lb

Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14313
- ★ FIRE SAFETY, API F6A
- ★ ANTI STATICS, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

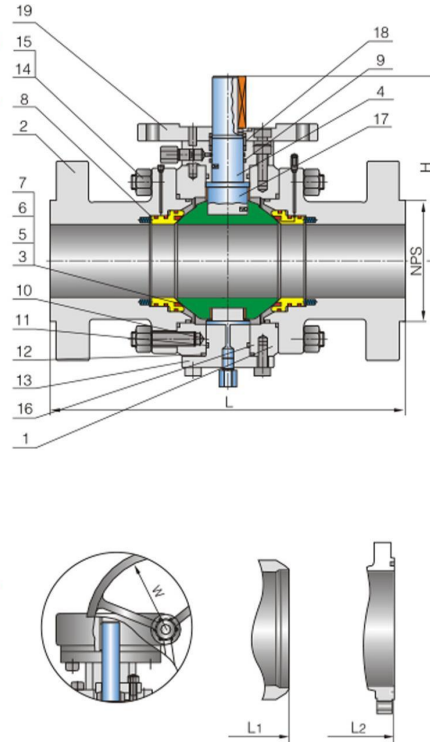
Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ THREE PIECES BODY FOR 12" & ABOVE
- ▲ TRUNNION MOUNTED BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFETY CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR

Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy Steel	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Ball	A182-F304 ¹⁾	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316
4	Stem	A276-304	A276-304	A276-316	A276-304	A276-316
5	Seat	A105+ENP	A350 LF2+ENP	A182-F316	A182-F304	A182-F316
6	Seat Insert	PTFE		R.PTFE	Glass Filled PTFE	
7	Seat Spring	A313-304	A313-304	A313-316	A313-316	A313-316
8	Seat O-Ring	NBR	Viton	Viton	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton	Viton	Viton
10	Bonnet Gasket	(Graphite+304) ²⁾		(Graphite+316) ²⁾	(Graphite+304) ²⁾	(Graphite+316) ²⁾
11	Bonnet O-Ring	NBR	Viton	Viton	Viton	Viton
12	Antistatic Spring	A313-304	A313-304	A313-316	A313-316	A313-316
13	Lower Cover	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
14	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
15	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
16	Trunnion	A276-304		A276-316	A276-304	A276-316
17	Trunnion Bearing	304+PTFE		316+PTFE	304+PTFE	316+PTFE
18	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
19	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8

- Notes: 1). A105+ENP optional.
2). Spiral wound construction.



Dimensions Data ANSI Class 900Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	mm
L/L ₁ (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	mm
L ₂ (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568	mm
H	8.62	9.25	10.25	15.38	25.75	30.25	31.75	38.00	38.50	45.00	47.00	53.50	56.00	in
	219	235	260	390	655	770	805	965	980	1145	1195	1360	1425	mm
W	20	20	20	24	24	24	24	32	32	32	32	32	32	in
	500	500	500	600	600	600	600	800	800	800	800	800	800	mm
WT(kg)	31	43	68	98	171	345	650	940	1205	1565	2050	2535	3950	RF/RTJ
	23	31	51	61	102	240	480	735	965	1215	1625	1995	3335	BW

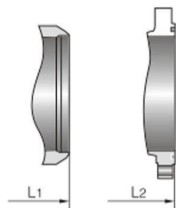
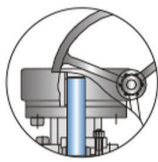
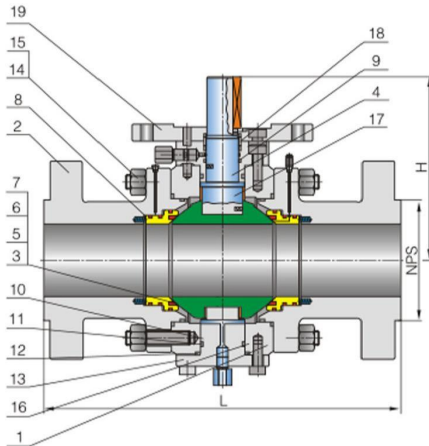
Trunnion Mounted Ball Valve 1500Lb/2500Lb

Applicable Standards

- ★ STEEL BALL VALVES, API 608/API 6D
- ★ STEEL BALL VALVES, ISO 14313
- ★ FIRE SAFETY, API 607
- ★ ANTI STATICS, API 608
- ★ STEEL VALVES, ASME B16.34
- ★ FACE TO FACE, ASME B16.10
- ★ END FLANGES, ASME B16.5
- ★ BUTTWELDING ENDS, ASME B16.25
- ★ INSPECTION AND TEST, API 598/API 6D

Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET, SPLIT BODY
- ▲ THREE PIECES BODY FOR 12" & ABOVE
- ▲ TRUNNION MOUNTED BALL TYPE
- ▲ BLOW-OUT PROOF STEM
- ▲ FIRE SAFE CONSTRUCTION
- ▲ ANTI STATIC DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR



Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy steel	Stainless Steel	
1	Body	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Ball	ASTM A105+ENP	A182-F304 ¹⁾	A182-F316	A182-F304 ¹⁾	A182-F316
4	Stem	A182 F6a	A276-304	A276-316	A276-304	A276-316
5	Seat	ASTM A105+ENP	A350 LF2+ENP	A182-F316	A182-F304	A182-F316
6	Seat Ring	PTFE		R.PTFE	Glass Filled PTFE	
7	Seat Spring	INCONEL750	A313-304	A313-316	A313-316	A313-316
8	Stem O-Ring	Viton	Viton	Viton	Viton	Viton
9	Seat O-Ring	Viton	Viton	Viton	Viton	Viton
10	Bonnet Gasket	(Graphite+304) ²⁾		(Graphite+316) ²⁾	(Graphite+304) ²⁾	(Graphite+316) ²⁾
11	Bonnet O-Ring	Viton	Viton	Viton	Viton	Viton
12	Antistatic Spring	A313-304	A313-304	A313-316	A313-316	A313-316
13	Lower Cover	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
14	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
15	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
16	Trunnion	A276-304		A276-316	A276-304	A276-316
17	Trunnion Bearing	304+PTFE		316+PTFE	304+PTFE	316+PTFE
18	Gland Flange	ASTM-A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
19	Gland Bolt	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8

Notes: 1). A105+ENP optional.
2). Spiral wound construction.

Dimensions Data ANSI Class 1500Lb

ANSI Class 2500Lb

NPS	DN	L/L ₁ (RF/BW)		L ₂ (RTJ)		H	W	WT(kg)		L/L ₁ (RF/BW)		L ₂ (RTJ)		H	W	WT(kg)					
		in	mm	in	mm			in	mm	in	mm	in	mm			in	mm	in	mm	in	mm
2	50	14.50	368	14.62	371	11.25	285	20	500	49	33	17.75	451	17.88	454	12.00	304	20	500	55	41
2 1/2	65	16.50	419	16.62	422	12.00	305	20	500	67	44	20.00	508	21.25	540	12.88	327	24	600	76	55
3	80	18.50	470	18.62	473	13.25	338	24	600	106	73	22.75	578	23.00	584	14.25	362	24	600	120	91
4	100	21.50	546	21.62	549	20.00	506	24	600	153	87	26.50	673	26.88	683	21.25	540	24	600	173	110
6	150	27.75	705	28.00	711	33.50	852	24	600	268	145	36.00	914	36.50	927	35.88	911	32	800	302	182
8	200	32.75	832	33.12	841	39.38	1000	32	800	540	345	40.25	1022	40.88	1038	42.12	1070	32	800	612	430
10	250	39.00	991	39.38	1000	41.12	1045	32	800	1020	685	50.00	1270	50.88	1292	44.00	1120	32	800	1150	855
12	300	44.50	1130	45.12	1146	49.38	1255	32	800	1475	1050	56.00	1422	56.88	1445	53.00	1345	32	800	1665	1315
14	350	49.50	1257	20.25	1276	50.00	1270	32	800	1885	1385	-	-	-	-	-	-	-	-	-	-
16	400	54.50	1384	44.38	1407	58.50	1485	32	800	2455	1735	-	-	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	in	mm

Trunnion Ball Valve Reduce Bore Ball Valve

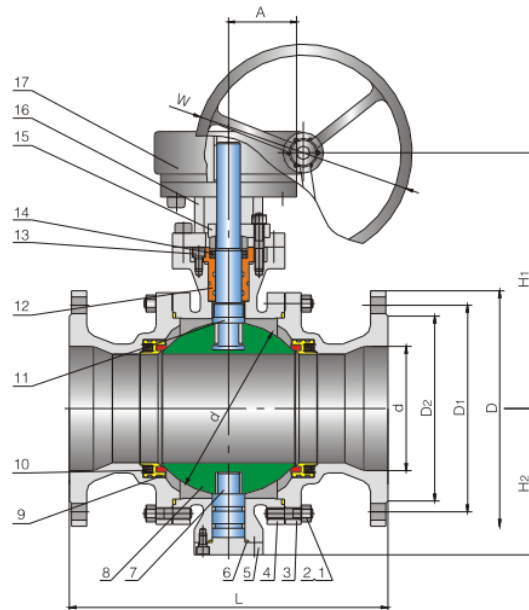
Applicable Standards

- ★ DESIGN & MANUFACTURING: API 6D
- ★ FACE-TO-FACE OF END-TO-END: ASME B16.34
- ★ FLANGE DIMENSION (RF): ASME B16.5 FOR NPS<24'
- ★ INSPECTION & TEST, API 6D

Design Description

▲ REDUCED PORT:

- ▲ SIZES 2"-24"
- ▲ CLASS 150LB, 30LB, 60LB, 1500LB AS SPECIFIED IN ASME B16.34
- ▲ BLOW OUT PROOF STEM
- ▲ FLANGED END, RAISED FACE



Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy steel	Stainless Steel	
1	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A320-B8
2	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
3	Bonnet	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
4	Body	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
5	Lower Cover	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
6	O-Ring	Viton	Viton	Viton	Viton	Viton
7	Put the Valve Stem	A182 F6a	A276-304	A276-316	A276-304	A276-316
8	Ball	ASTM A105+ENP	A182-F3041)	A182-F316	A182-F3041)	A182-F316
9	Seat	ASTM A105+ENP	A350+LF2+ENP	A182-F316	A182-F304	A182-F316
10	Seat Spring	INCONEL750	A313-304	A313-316	A313-316	A313-316
11	Stem	A182 F6a	A276-304	A276-316	A276-304	A276-316
12	Trunnion Bearing	304+PTFE		316+PTFE	304+PTFE	316+PTFE
13	Stud	A193-B7	A320-L7	A193-B7	A193-B8	A320-B8
14	Packing	PTFE		R,PTFE	Glass Filled PTFE	
15	Gland Flang	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
16	Yoke	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
17	Driving	Package				

Trunnion Mounted Ball Valve 150Lb

Main size of outside

Class	NPS(in)	d		L		H ₁		H ₂		W		A		B	
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
150Lb	2	2.00	51	7.00	178	6.92	176	3.74	95	13.77	350	-	-	-	-
	3 × 2 × 3	2.00	51	7.99	203	6.92	176	3.74	95	13.77	350	-	-	-	-
	3	2.99	76	7.99	203	8.46	215	4.72	120	15.74	400	-	-	-	-
	4 × 3 × 4	2.99	76	9.01	229	8.46	215	4.72	120	15.74	400	-	-	-	-
	4	4.01	102	9.01	229	9.92	252	5.59	142	19.68	500	-	-	-	-
	6 × 4 × 6	4.01	102	15.51	394	9.92	252	5.59	142	19.68	500	-	-	-	-
	6	5.98	152	15.51	394	12.99	330	8.66	220	41.33	1050	-	-	-	-
	8 × 6 × 8	5.98	152	17.99	457	12.99	330	8.66	220	41.33	1050	-	-	-	-
	8	7.99	203	17.99	457	17.63	448	10.19	259	11.81	300	4.13	105	7.48	190
	10 × 8 × 10	7.99	203	20.98	533	17.63	448	10.19	259	11.81	300	4.13	105	7.48	190
	10	10.00	254	20.98	533	19.88	505	12.00	305	13.77	350	4.92	125	8.07	205
	12 × 10 × 12	10.00	254	24.01	610	19.88	505	12.00	305	13.77	350	4.92	125	8.07	205
	12	12.00	305	24.01	610	21.88	556	13.70	348	15.74	400	7.28	185	12.59	320
	14 × 12 × 14	12.00	305	27.00	686	21.88	556	13.70	348	15.74	400	7.28	185	12.59	320
	14	13.26	337	27.00	686	24.40	620	15.55	395	19.68	500	7.67	195	13.77	350
	16 × 14 × 16	13.26	337	30.00	762	24.40	620	15.55	395	19.68	500	7.67	195	13.77	350
	16	15.23	387	30.00	762	27.55	700	17.71	450	19.68	500	7.67	195	13.77	350
	18 × 16 × 18	15.23	387	34.01	864	27.55	700	17.71	450	19.68	500	7.67	195	13.77	350
	18	17.24	438	34.01	864	29.52	750	19.09	485	19.68	500	8.46	215	14.96	380
	20 × 18 × 20	17.24	438	35.98	914	29.52	750	19.09	485	19.68	500	8.46	215	14.96	380
	20	19.25	489	35.98	914	31.69	805	20.66	525	19.68	500	8.46	215	14.96	380
	22 × 18 × 22	17.24	438	40.00	1016	29.52	750	19.09	485	19.68	500	8.46	215	14.96	380
	22	21.25	540	40.00	1016	35.03	890	24.21	615	19.68	500	8.46	215	14.96	380
	24 × 20 × 24	19.25	489	42.00	1067	31.69	805	20.66	525	19.68	500	8.46	215	14.96	380
	24	35.07	891	42.00	1067	43.70	1110	26.77	680	19.68	500	11.02	280	18.11	460
	26 × 22 × 26	21.25	540	45.00	1143	35.03	890	24.21	615	19.68	500	8.46	215	14.96	380
	26	25.00	635	45.00	1143	44.88	1140	28.14	715	19.68	500	11.02	280	18.11	460
	28 × 24 × 28	23.26	591	49.01	1245	43.70	1110	26.77	680	19.68	500	11.02	280	18.11	460
	28	27.00	686	49.01	1245	46.45	1180	29.52	750	19.68	500	11.02	280	18.11	460
	30 × 24 × 30	23.26	591	50.98	1295	43.70	1110	26.77	680	19.68	500	11.02	280	18.11	460
	30	29.01	737	50.98	1295	48.03	1220	33.46	850	19.68	500	11.02	280	18.11	460
	32 × 26 × 32	25.00	635	54.01	1372	44.88	1140	28.14	715	19.68	500	11.02	280	18.11	460
	32	30.98	787	54.01	1372	49.21	1250	37.40	950	19.68	500	11.02	280	18.11	460
	34 × 28 × 34	27.00	686	57.99	1473	46.45	1180	29.52	750	19.68	500	11.02	280	18.11	460
	34	32.75	832	57.99	1473	51.18	1300	38.77	985	19.68	500	11.02	280	18.11	460
	36 × 30 × 36	29.01	737	60	1524	48.03	1220	33.46	850	19.68	500	11.02	280	18.11	460
36	34.48	876	60	1524	53.14	1350	41.33	1050	22.59	650	7.87	200	25.19	640	

Top Entry Ball Valve

Integral body design, fixedly supported by a top-set trunnion and flanged or butt-welded structure. Because the cone spring makes the sealed seat ring moving towards the ball, so there is a sealing function at both inlet and outlet, and the unique regressive know-how used with the seat ring makes the ball rod, the stem, the seal ring, the metal seat ring and the spring replaceable on-line, the torque reduced to minimum, the valve operation, repair and installation easy and the duration long. For repairing and replacing the internal parts, there is no need to remove the valve from the pipeline, extending the duration, reducing the torque and making the sealing reliable.

The seat ring of a spherical structure is different from that with common ball valves, as it can automatically regulate the seal position. The top mounted ball valve has DBB double bleed-blocking function and the manually top mounted one has a high strength integral ball-rod structure, making sure of a precise position of the ball, and the stem has a blow-out protective structure, enhancing the operation safety and suitable for the natural gas pipeline, and the integrated body leaves reduced leak points, easy repair, an advanced workmanship, a high take-up pressure and a wide range of application.



COOPER[®]

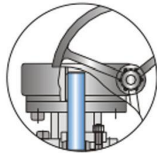
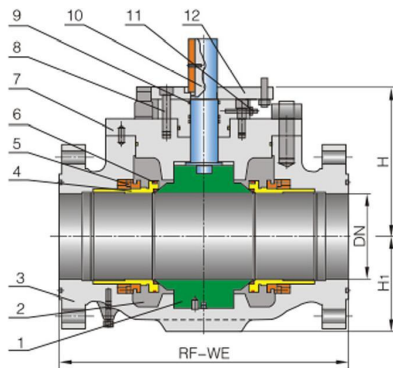
Top Entry Ball Valve

Applicable Standards

- ★ STEEL BALL VALVES API 6D
- ★ END FLANGES, ASME B16.5
- ★ FIRE SAFE API 607
- ★ FACE TO FACE ASME B16.10
- ★ BUTT WELDING ENDS ASME B16.25
- ★ INSPECTION AND TEST API 598/API 6D

Design Description

- ▲ INTEGRATED BODY DESIGN, FIXED AND SUPPORTED BY AN UP-MOUNTED PIVOT, FLANGE CONNECTED STRUCTURE;
- ▲ INTEGRATED PIVOT FIXED BALL-ARM DESIGN;
- ▲ THE SEALANT INJECTOR DESIGN CAN HAVE THE SEALING GREASE INJECTED AT AN EMERGENCY TO SEAL THE STEM OR THE SEAT RING;
- ▲ WITH THE SEAT RING RETRACTABLE KNOW-HOW USED, THE BALL-ARM, THE SEAL RING OF THE STEM, THE METAL SEAT RING AND THE SPRING CAN BE ON-LINE REPLACED;
- ▲ FIRE-FIGHTING FUNCTION: WHEN THE SEAT RING IS BURNT OUT OR DAMAGED, THE METAL SEAT RING WILL BE AUTOMATICALLY FITTED TIGHTLY AGAINST THE BALL, LEAVING LESS LEAK BETWEEN BOTH.



Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy steel	Stainless Steel	
1	Ball	ASTM A105+ENP	A182-F304	A182-F316	A182-F304	A182-F316
2	Seat Ring	Viton	Viton	Viton	Viton	Viton
3	Body	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
4	Seat	ASTM A105+ENP	A350-LF2+ENP	A182-F316	A182-F304	A182-F316
5	Spring	INCONEL750	A313-304	A313-316	A313-316	A313-316
6	Seat O-Ring	Viton	Viton ¹⁾	Viton	Viton ¹⁾	Viton
7	Bonnet	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
8	Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
9	Stem O-Ring	Viton	Viton	Viton	Viton	Viton
10	Stem	A182 F6a	A276-304	A276-316	A276-304	A276-316
11	Grease injection valve	SS				
12	Connection plate	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M

Dimensions Data ANSI Class 150Lb

NPS	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	42	48	in
DN	50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000	1050	1200	mm
RF	7.00	7.99	11.77	15.51	17.99	20.98	24.01	27.00	30.00	34.01	35.98	39.01	42.00	45.00	48.97	50.98	53.97	57.99	60.00	69.01	73.03	84.01	in
	178	203	299	394	457	533	610	686	762	864	914	991	1067	1143	1244	1295	1371	1473	1524	1753	1855	2134	mm
WE	8.50	11.14	12.00	17.99	20.51	22.00	25.00	30.00	32.99	39.01	42.99	45.00	49.01	53.03	55.00	60.00	60.00	64.01	68.03	77.00	82.00	94.01	in
	216	283	305	457	521	559	635	762	838	991	1092	1143	1245	1347	1397	1524	1524	1626	1728	1956	2083	2388	mm
H	5.51	7.48	9.72	11.61	12.99	15.74	18.11	18.89	21.25	22.83	22.99	24.01	24.09	24.68	25.35	27.20	29.21	29.88	31.96	35.43	37.00	43.18	in
	140	190	247	295	330	400	460	480	540	580	584	610	612	627	644	691	742	759	812	900	940	1097	mm
H1	3.54	4.13	5.55	6.88	8.26	9.84	12.20	13.38	15.15	16.85	21.45	22.99	25.78	22.20	25.90	27.75	29.33	30.51	31.77	35.35	37.00	41.73	in
	90	105	141	175	210	250	310	340	385	428	545	584	655	564	658	705	745	775	807	898	940	1060	mm

Dimensions Data ANSI Class 300Lb

NPS	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	42	48	in
DN	50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000	1050	1200	mm
RF	8.50	11.14	12.00	17.99	20.51	22.00	25.00	30.00	32.99	39.01	42.99	45.00	49.01	53.03	55.00	60.00	60.00	64.01	68.03	77.00	82.00	85.43	in
	216	283	305	457	521	559	635	762	838	991	1092	1143	1245	1347	1397	1524	1524	1626	1728	1956	2083	2170	mm
WE	8.50	11.14	12.00	17.99	20.51	22.00	25.00	30.00	32.99	39.01	42.99	45.00	49.01	53.03	55.00	60.00	60.00	64.01	68.03	77.00	82.00	85.43	in
	216	283	305	457	521	559	635	762	838	991	1092	1143	1245	1347	1397	1524	1524	1626	1728	1956	2083	2170	mm
H	7.87	9.44	9.72	11.61	12.99	16.53	18.30	21.45	23.62	23.07	23.89	24.09	24.48	24.80	25.19	27.55	29.33	29.92	31.69	35.43	38.11	43.30	in
	200	240	247	295	330	420	465	545	600	586	607	612	622	630	640	700	745	760	805	900	968	1100	mm
H1	4.72	5.11	5.55	6.88	8.26	10.62	12.79	16.92	18.50	20.07	19.68	20.98	23.62	22.83	25.57	28.74	29.92	31.49	32.48	36.22	38.58	45.66	in
	120	130	141	175	210	270	325	430	470	510	500	533	600	580	675	730	760	800	825	920	980	1160	mm

Top Entry Ball Valve

Dimensions Data ANSI Class 600Lb

NPS	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	40	42	48	in
DN	50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	1000	1050	1200	mm
RF	11.49	14.01	17.00	22.00	25.98	30.98	32.99	35.00	39.01	42.99	47.00	51.02	55.00	57.00	60.98	66.29	70.00	75.86	82.00	85.43	85.62	95.86	in
	292	356	432	559	660	787	838	889	991	1092	1194	1296	1397	1448	1549	1684	1778	1930	2083	2170	2175	2435	mm
RTJ	11.49	14.01	17.12	22.12	26.14	31.14	33.11	35.11	39.13	43.11	47.24	51.37	55.35	57.48	61.49	66.81	70.62	76.61	82.59	85.43	85.62	95.86	in
	292	356	435	562	664	791	841	892	994	1095	1200	1305	1406	1460	1562	1697	1794	1946	2098	2170	2175	2435	mm
WE	11.49	14.01	17.00	22.00	25.98	30.98	32.99	35.00	39.01	42.99	47.00	51.02	55.00	57.00	60.98	66.29	70.00	75.86	82.00	85.43	85.62	95.86	in
	292	356	432	559	660	787	838	889	991	1092	1194	1296	1397	1448	1549	1684	1778	1930	2083	2170	2175	2435	mm
H	7.67	9.44	11.02	12.00	15.74	17.12	17.32	19.88	23.22	23.18	23.77	23.97	24.48	24.80	26.18	29.17	29.76	30.78	34.21	36.06	39.17	44.56	in
	195	240	280	305	400	435	440	505	590	589	604	609	622	630	665	741	756	782	869	916	995	1132	mm
H _i	4.33	4.33	6.88	7.67	11.02	11.22	12.59	13.38	16.14	17.51	20.07	22.49	24.01	24.33	27.24	31.49	31.65	32.16	37.20	38.58	43.30	49.80	in
	110	110	175	195	280	285	320	340	410	445	510	571	610	618	692	800	804	817	945	980	1100	1265	mm

Dimensions Data ANSI Class 900Lb

NPS	2	3	4	6	8	10	12	14	16	18	20	24	28	30	32	34	36	in
DN	50	80	100	150	200	250	300	350	400	450	500	600	700	750	800	850	900	mm
RF	14.48	15.00	17.99	24.01	29.01	32.99	37.99	40.51	44.48	47.99	52.00	60.98	69.01	74.01	80.00	85.00	90.00	in
	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	1753	1880	2032	2159	2286	mm
RTJ	14.60	15.11	18.11	24.13	29.13	33.11	38.11	40.86	44.88	48.50	52.48	61.73	69.88	74.88	80.86	86.14	126.57	in
	371	384	460	613	740	841	968	1038	1140	1232	1333	1568	1775	1902	2054	2188	3215	mm
WE	14.48	15.00	17.99	24.01	29.01	32.99	37.99	40.51	44.48	47.99	52.00	60.98	69.01	74.01	80.00	85.00	90.00	in
	368	381	457	610	737	838	965	1029	1130	1219	1321	1549	1753	1880	2032	2159	2286	mm
H	7.87	9.44	11.02	13.77	15.35	18.89	17.24	21.45	25.59	26.57	31.10	36.02						in
	200	240	280	350	390	480	438	545	650	675	790	915						mm
H _i	4.72	5.11	6.88	8.66	10.23	12.20	16.14	14.56	16.53	24.29	28.54	32.71						in
	120	130	175	220	260	310	410	370	420	617	725	831						mm

Dimensions Data ANSI Class 1500Lb

NPS	2	3	4	6	8	10	12	14	16	18	20	24	in
DN	50	80	100	150	200	250	300	350	400	450	500	600	mm
RF	14.48	18.62	21.49	27.75	32.75	39.01	44.48	49.48	54.48	60.51	65.51	80.43	in
	368	473	546	705	832	991	1130	1257	1384	1537	1664	2043	mm
RTJ	14.60	18.62	21.61	27.99	33.11	39.37	44.60	50.23	55.35	61.37	66.37	81.53	in
	371	473	549	711	841	1000	1133	1276	1406	1559	1686	2071	mm
WE	14.48	18.50	21.49	27.75	32.75	39.01	44.48	49.48	54.48	60.51	65.51	80.43	in
	368	470	546	705	832	991	1130	1257	1384	1537	1664	2043	mm
H	8.07	8.26	9.64	13.18	17.20	19.76	20.98	24.64	28.54	28.97	30.00	32.00	in
	205	210	245	335	437	502	533	626	725	736	762	813	mm
H _i	4.72	4.92	6.29	8.85	13.38	15.00	17.24	19.60	18.11	23.89	25.35	28.54	in
	120	125	160	225	340	381	438	498	460	607	644	725	mm

Dimensions Data ANSI Class 2500Lb

NPS	2	3	4	6	8	10	12	in
DN	50	80	100	150	200	250	300	mm
RF	17.75	22.75	26.49	35.98	40.23	50.00	55.98	in
	451	578	673	914	1022	1270	1422	mm
RTJ	17.87	22.99	26.88	36.49	40.86	50.86	56.88	in
	454	584	683	927	1038	1292	1445	mm
WE	17.75	22.75	26.49	35.98	40.32	50.00	55.98	in
	451	578	673	914	1022	1270	1422	mm
H	8.46	8.66	10.03	16.92	16.92	17.48	17.99	in
	215	220	255	430	430	444	457	mm
H _i	5.11	5.31	6.69	10.43	13.38	16.57	18.89	in
	130	135	170	265	340	421	480	mm

Double Ball Tandem Valve

This kind of valve is designed for replacing the complicated form where there are several connected valves in the conventional pipeline and for the purpose to reduce the leak points in the system, realize quick bleed and closure, making the installation space saved to utmost extent, the installation procedures simplified, the pipeline system pressure lowered, the work to clean and maintain the meters convenient and the cost reduced. It is used in the hydraulic system pipeline in electric power, petrochemical, metallurgy, ocean, petroleum, natural gas, coal gas, etc. applications.



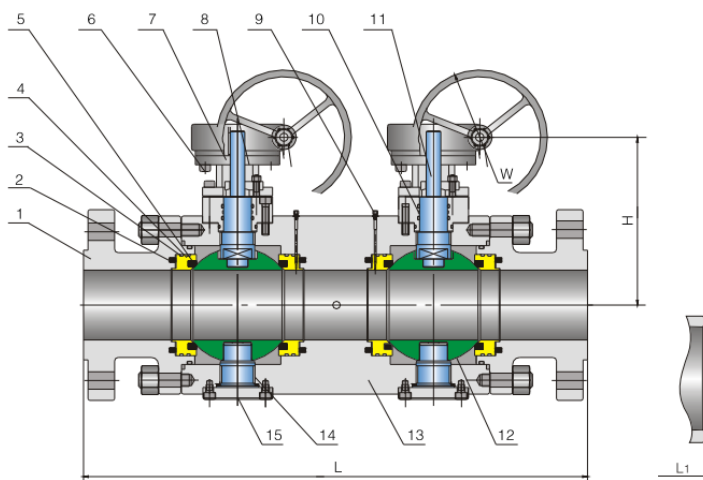
Double Ball Tandem Valve 300Lb/600Lb

Applicable Standards

- ★ STEEL BALL VALVES API 6D
- ★ END FLANGES ASME B16.5
- ★ STEEL VALVES ASME B16.34
- ★ FACE TO FACE ASME B16.10
- ★ INSPECTION AND TEST API 598/API 6D

Design Description

- ▲ FULL PORT DESIGN
- ▲ BOLTED BONNET SPLIT BODY
- ▲ THREE PIECES BODY
- ▲ TRUNNION MOUNTED BALL TYPE
- ▲ BLOW OUT PROOF STEM
- ▲ FIRE SAFE CONSTRUCTION
- ▲ ANTI STATICS DEVICE
- ▲ ISO 5211 MOUNTING PAD
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH LEVER



Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy Steel	Stainless Steel	
1	Bonnet	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Spring	INCONEL750	A313-304	A313-316	A313-316	A313-316
3	Seat O-Ring	Viton	Viton ¹¹	Viton	Viton ¹¹	Viton
4	Seat	ASTM A105+ENP	A350-LF2+ENP	A182-F316	A182-F304	A182-F316
5	Seat Ring	PTFE	PTFE	R.PTFE	Glass Filled PTFE	
6	Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
7	Connection Pate	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
8	Packing Case	F4				
9	Grease Injection Valve	SS				
10	Stem O-Ring	Viton	Viton	Viton	Viton	Viton
11	Stem	A182 F6a	A276-304	A276-316	A276-304	A276-316
12	Ball	ASTM A105+ENP	A182-F304	A182-F316	A182-F304	A182-F316
13	Body	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
14	Trunnion	A276-304		A276-316	A276-304	A276-316
15	Lower cover	ASTM A105	A352-LCB	A217-WC6	A351-CF8	A351-CF8M

Dimensions Data ANSI Class 300Lb

NPS	4	6	8	10	12	14	16	18	20	24	in
L/L1	27.55	35.43	41.33	47.24	51.96	55.90	63.77	71.65	78.74	83.46	in
	700	900	1050	1200	1320	1420	1620	1820	2000	2120	mm
H	7.00	10.70	15.66	19.48	22.83	24.60	26.37	27.48	33.07	41.33	in
	178	272	398	495	580	625	670	698	840	1050	mm
W	9.84	11.81	11.81	13.77	13.77	17.71	17.71	21.65	21.65	25.59	in
	250	300	300	350	350	450	450	550	550	650	mm

Dimensions Data ANSI Class 600Lb

NPS	4	6	8	10	12	14	16	18	20	24	in
L/L1	28.34	36.22	43.30	49.21	55.11	59.05	66.92	74.80	80.70	93.58	in
	720	920	1100	1250	1400	1500	1700	1900	2050	2377	mm
H	9.25	11.81	14.72	17.51	20.15	21.65	24.21	27.48	29.52	31.88	in
	235	300	374	445	512	550	615	698	750	810	mm
W	11.81	13.77	13.77	17.71	17.71	21.65	21.65	21.65	25.59	25.59	in
	300	350	350	450	450	550	550	550	650	650	mm

About us



Our History

COOPER® Valves was founded in 1930 and in 1934 COOPER's foundry developed the first successful technique to pour 304 stainless steel. Since then COOPER has become a well-respected and approved valve manufacturer that specializes in exotic alloy valves, serving the downstream and mid-stream chemical, petrochemical, oil and gas, water, power, mining and refining industries for over 90 years. COOPER's success is derived from its dedication to building dependable valves through advanced engineering, experienced personnel, controlled manufacturing processes, and a wide level of end-user's approvals.

Our Mission Statement

To manufacture and deliver to our customers the finest valves in the world.

Our motto is "Quality without Compromise". We strive to make every valve we produce "bullet proof" because we know that our quality directly impacts our end users, our community, and our environment. An American classic, Cooper's vision is to grow and maintain our market position as the leading manufacturer and supplier of high alloy and nickel valves in a global market.

We believe through hard work, intelligent decision making and effective management we can deliver the highest quality, shortest delivery products to our client base at a fair price. We believe that our employees and their dedication to preserving and protecting our core values will be our basis for success. We are all like-minded people with shared beliefs in striving to always do the best.

COOPER VALVES

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