



WALWORTH®
Since 1842

FLOATING BALL VALVE
CATALOG



FLOATING BALL VALVES

This product line is used primarily in the Oil & Gas, Building and construction Industries, Chemical and Petrochemical services, among others. WALWORTH offers Floating Ball valves to provide positive shut-off while minimizing pressure drop.

WALWORTH offers an array of materials used for this product line, including but not limited to:

- a) Carbon Steel such as A-105 or WCB, etc.
- b) Stainless Steel such as CF8, CF8M or F316, etc.
- c) Low Carbon Stainless Steel such as CF3, CF3M, CG3M, etc.
- d) Super Stainless Steel such as CN7M (Alloy 20), CN3M (Alloy 20 modified), CT15C, etc.
- e) Brass like B283 grade C37700, Low Temperature Carbon Steel such as LCB, LCC or LF2, etc.

WALWORTH offers a variety of trim materials including but not limited to the following:

- a) Ball and stem made from SS-304, PTFE, RPTFE or Nylon seats, PTFE packing.
- b) Ball and stem made from SS-316, PTFE, RPTFE or Nylon seats, PTFE packing.
- c) Ball and stem made from SS-304, PTFE, RPTFE or Nylon seats and graphite stem packing suitable for fire safe design.
- d) Ball and stem made from SS-316, PTFE, RPTFE or Nylon seats and graphite stem packing suitable for fire safe design.
- e) Other trim materials could be manufactured to match with body materials.



Design Features

- Standard Floating Ball valves in accordance with API 608, API6D & MSS-SP-72 for flanged and BW ends from 1/2" up to 8". Test in accordance with API 598.
- Standard Floating Ball Valves in accordance with MSS-SP-110 for threaded and socketweld ends from 1/4" up to 4". Test in accordance with MSS-SP-110
- Fire Safe Floating Ball valves in accordance with API-6D & API-608 for flanged and BW ends from 1/2 up to 8". Test in accordance with API-598.
- Fire Safe Floating Ball valves in accordance with API-608 or ASME B16.34 for threaded and socket well ends from 1/2" up to 2". Test in accordance with API-598

PRODUCT RANGE

Type	Firesafe or Not Firesafe design	Size	Pressure Class	Ends	Figure Nr
Two-Piece Floating Ball Valve	Not Firesafe	1/4" to 2"	600 WOG	Threaded	7711
Three-Piece Floating Ball Valve	Not Firesafe	1/4" to 4"	1000 & 2000 WOG	Threaded or Socket Weld	7011, 7017, 7411, 7417
Two-Piece Floating Ball Valve	Not Firesafe	1/4" to 8"	150 & 300#	Flanged	7112, 7312
Two-Piece Floating Ball Valve	Not Firesafe	1/2" to 4"	600#	Flanged	7612
Two-Piece Floating Ball Valve	Firesafe	1/4" to 8"	150 & 300#	Flanged	7112 Z, 7312 Z
Two-Piece Floating Ball Valve	Firesafe	1/2" to 4"	600#	Flanged	7612 Z
Three-Piece Floating Ball Valve	Firesafe	1/4" to 2"	1500#	Flanged	7512 Z
Three-Piece Floating Ball Valve	Firesafe	1/4" to 2"	800, 1500 & 2500#	Threaded or Socket Weld	7811 Z, 7817 Z, 7511 Z, 7517 Z, 7211 Z, 7217 Z

STRUCTURAL FEATURES

Lever Positions

Valves with wrench aligned with the valve is in open position, and wrench in perpendicular to the valve is in closed position.



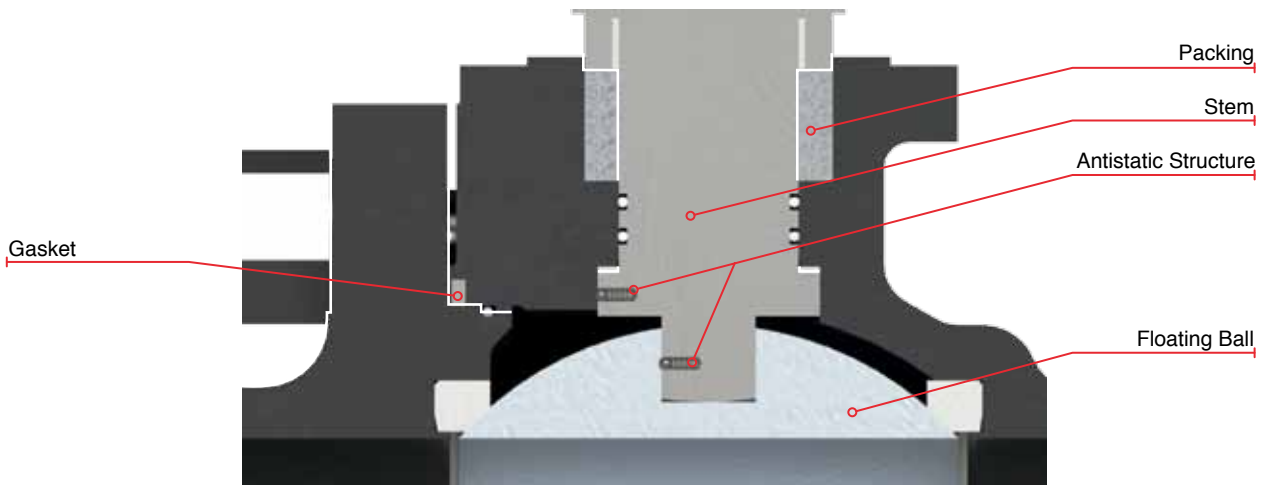
OPEN POSITION



CLOSE POSITION

Blow Out Proof Stem Design & Antistatic Structure

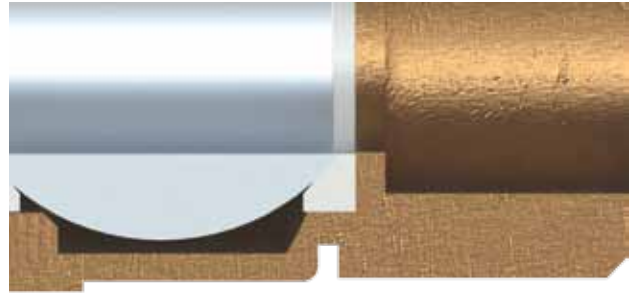
To reinforce safety, WALWORTH have fitted the product with a T-shaped blowout proof stem back seat that significantly extends stem seal life and prevents it to come out from the body structure. It also includes an antistatic device that lowers coefficient of friction between stem-ball and stem-body ball when operating the valve. Friction could cause electrostatic charges (sparks) that could cause fire when mixing with fluid. Leakage from the valve stem is prevented with the aid of two O'rings and a Gasket that work together with the graphite packing.



STRUCTURAL FEATURES

Soft Seats

Stringent limitations on ball valve designing along with operating conditions have resulted in the use of several thermoplastic materials to meet the required operating range for ball valve seat thus, WALWORTH offers soft seats such as PTFE, RPTFE, Nylon, Molon, PEEK, etc., to guarantee zero leakage in low and high pressures at different temperatures, these can be used for several services in any industry, also preferred and supplied to Oil and Gas producers. Soft seat reduce friction which result in less torque when operating the valve.



Fire Safe Design

When a fire occurs the valve soft seal areas (packing, gasket and seat) came burnt or could be damaged, to prevent this right and left body are contacted by a gasket made of graphite instead soft seal (figure a) and the same happens on the packing stem where it is made of graphite instead soft seal (figure b). To prevent internal leakage when seat came burnt, the metal seal face of the body will act as a second seal being in contact with the ball (figure c). The design is based on the standards API 607, JB/T6899 and second part of BS6755.

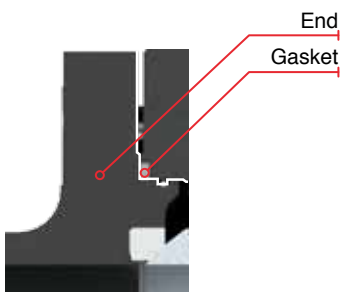


Figure a

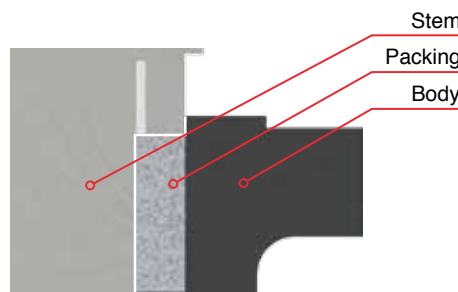


Figure b

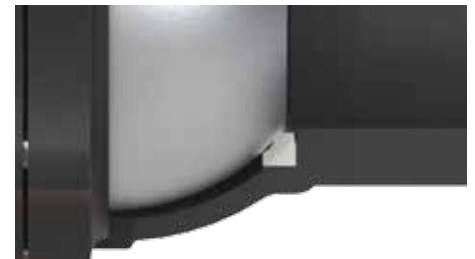


Figure c

Full and Reduced Port

There are two types of port (full and reduced) on WALWORTH floating ball valves for different purposes. The full port design means that the port will be of the same inside diameter as the pipeline, so there will be no resistance for the fluid and this valve could be cleaned by a pig being trough conduit. Reduced port provides resistance to the fluid, the inside diameter is a size smaller than that of the pipeline being a valve not piggable



FULL PORT DESIGN

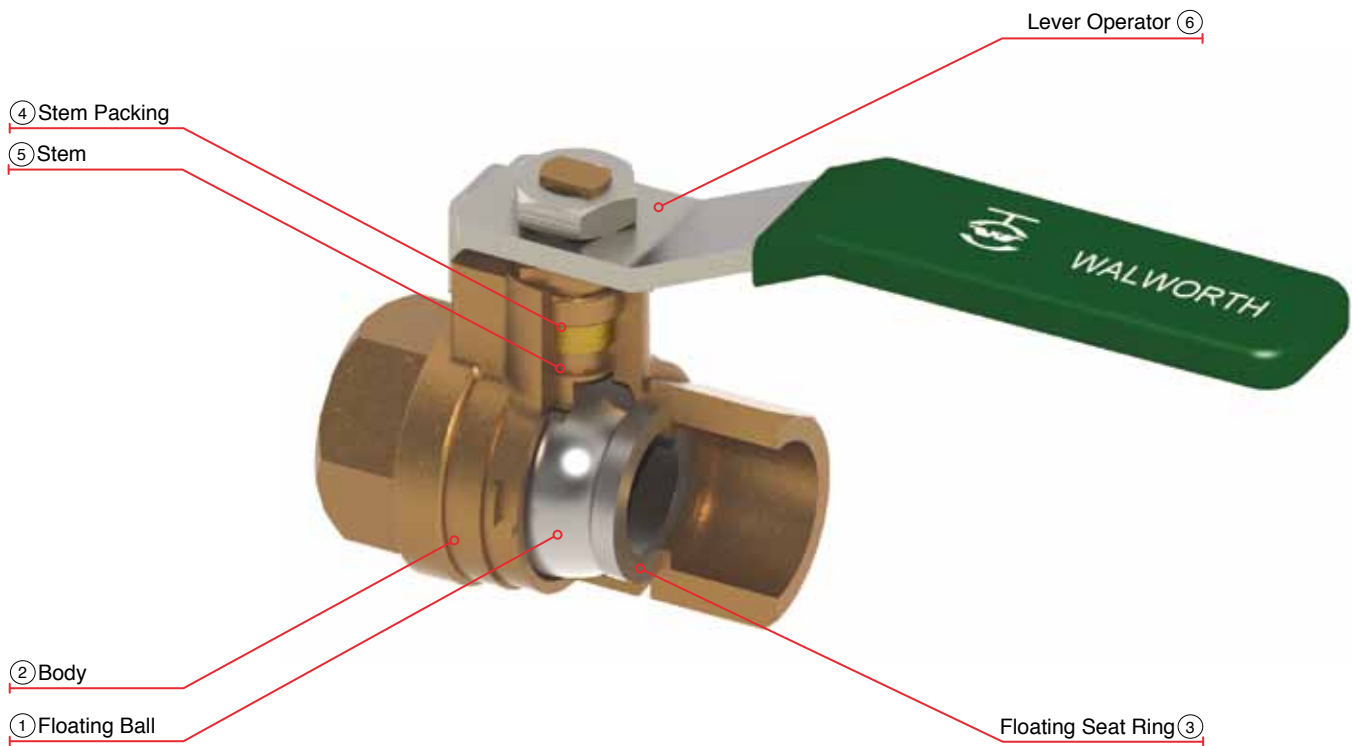


REDUCED PORT DESIGN

WALWORTH STANDARD FLOATING BALL VALVES CLASS 600 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 600 WOG
- Full Port
- Two-piece body
- Brass Construction
- Threaded Body
- Threaded ends as per ASME B1.20.1
- End to end dimensions as per WALWORTH standard

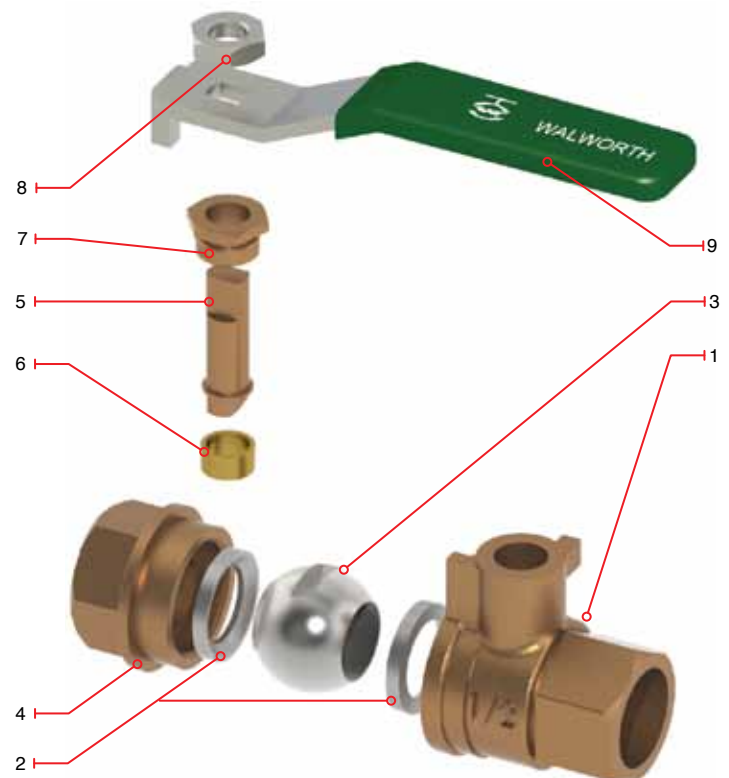


- ① Floating Ball. For all sizes & pressure ratings. The ball is only held by the stem and is in movement with the direction of the fluid in order to seal with the seat rings.
- ② Body. Made of two pieces that includes the central body screwed with the end flanges.
- ③ Floating Seat Ring. Two independent dynamic soft seat rings that get in contact with the floating ball which seal in one side of the valve depending on the fluid direction.
- ④ Stem Packing. It is a soft seal that ensures reliable operation at high levels of sealing integrity when operating the valve.
- ⑤ Stem. The stem design is anti blow out which is held up by the valve body and fits in the bottom with a small cavity in the top part of the floating ball.
- ⑥ Lever operator. It is supplied in all sizes to open and close the valve.

WALWORTH STANDARD FLOATING BALL VALVES CLASS 600 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 600 WOG
- Full Port
- Two-piece body
- Brass Construction
- Threaded Body
- Threaded ends as per ASME B1.20.1
- End to end dimensions as per WALWORTH standard



Regular Bill of Materials

No.	Description	Brass
1	Body	Brass B283 - C37700
2	Seat Ring	PTFE
3	Ball	Brass B283 - C37700 + Chrome coating
4	End	Brass B283 - C37700
5	Stem	Brass B124 - C37700
6	Packing	PTFE
7	Gland	Brass B124 - C37700
8	Stem Bolt	Steel A-36 + Cadminized coating
9	Lever	Steel A-36 + Cadminized coating

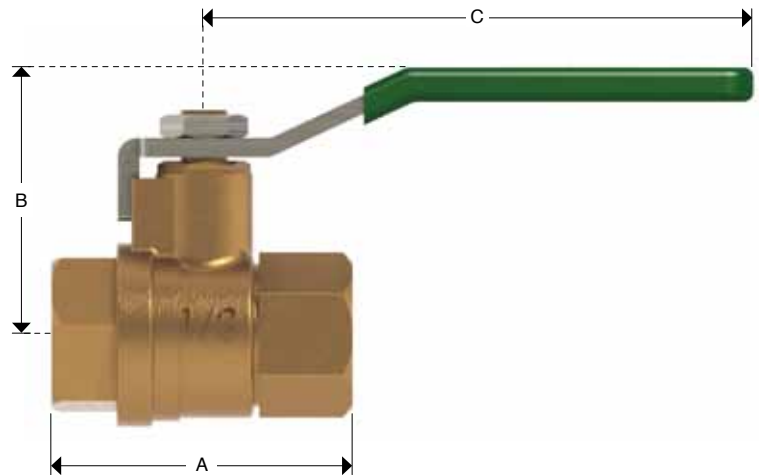
WALWORTH STANDARD FLOATING BALL VALVES

CLASS 600 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 600 WOG
- Full Port
- Two-piece body
- Brass Construction
- Threaded Body
- Threaded ends as per ASME B1.20.1
- End to end dimensions as per WALWORTH standard

Lever Operator	
Catalog Figure No.	Type of Ends
7711	Threaded ends



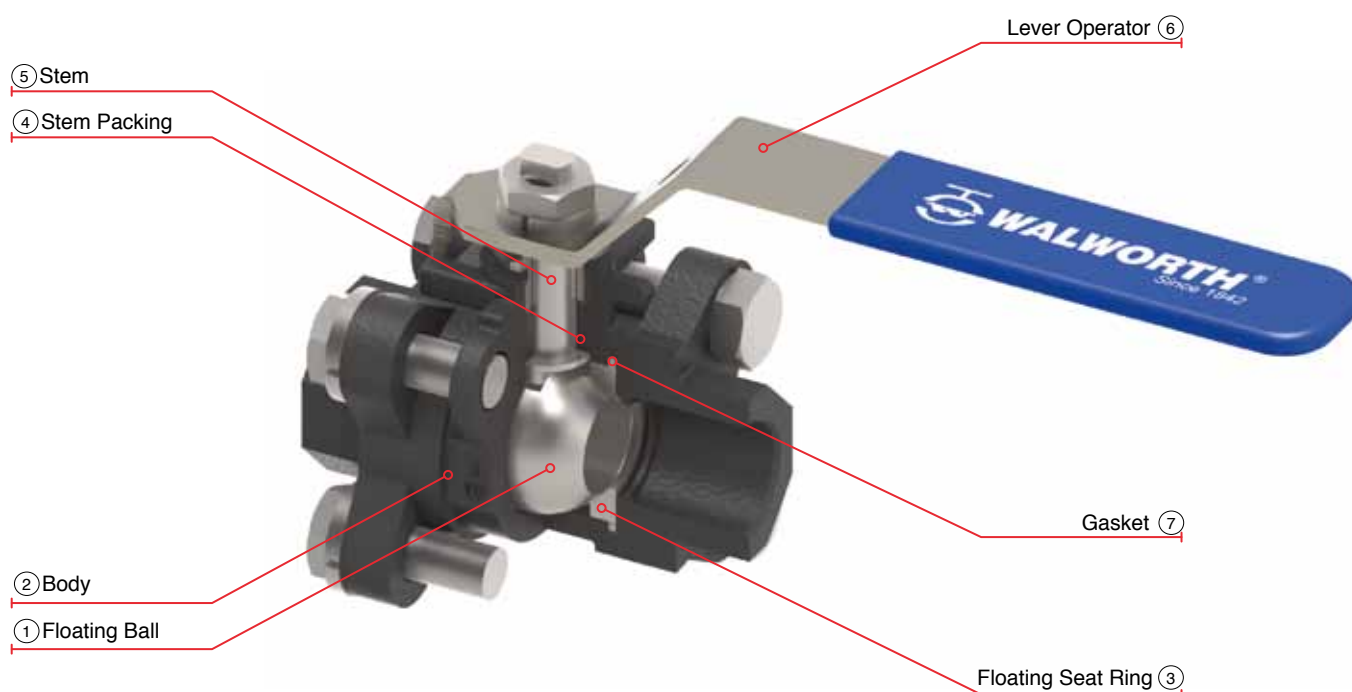
Dimensions and Weights

D Nominal Diameter	mm	15	20	25	32	40	50
	in	1/2	3/4	1	1 1/4	1 1/2	2
A	mm	57	67	77	92	103	122
	in	2.24	2.64	3.03	3.62	4.05	4.8
B	mm	39	57	65	71	140	140
	in	1.53	2.24	2.56	2.79	5.51	5.51
C	mm	90	90	125	125	140	140
	in	3.54	3.54	4.92	4.92	5.51	5.51
Weight 7711	kg	0.22	0.34	0.57	0.85	1.37	2.08
	lb	0.49	0.75	1.26	1.87	3.02	4.59

WALWORTH STANDARD FLOATING BALL VALVES CLASS 1000 WOG & 2000 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 1000 WOG & 2000 WOG
- Full Port
- Three-piece body
- Investment Cast Steel Construction
- Bolted Body
- Threaded ends as per ASME B1.20.1
- Socket weld ends as per ASME B16.11
- End to end dimensions as per WALWORTH standard

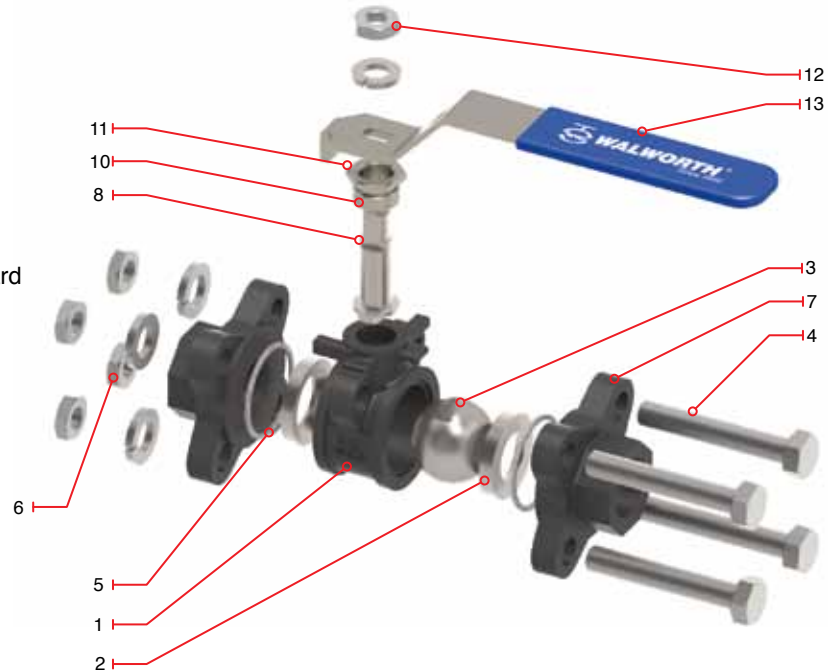


- ① Floating Ball. For all sizes & pressure ratings. The ball is only hold by the stem and is in movement with the direction of the fluid in order to seal with the seat rings.
- ② Body. Made of three pieces that includes the central body bolted with the end flanges.
- ③ Floating Seat Ring. Two independent dynamic soft seat rings that get in contact with the floating ball which seal in one side of the valve depending on the fluid direction.
- ④ Stem Packing. It is a soft seal that ensure reliable operation high levels of sealing integrity when operating the valve.
- ⑤ Stem. The stem design is anti blow out which is held up by the valve body and fits in the bottom with a small cavity in the top part of the floating ball.
- ⑥ Lever operator. It is supplied in all sizes to open and close the valve.
- ⑦ Gasket. It is a soft seal that has a reliable operation with high levels of sealing integrity between body and ends.

WALWORTH STANDARD FLOATING BALL VALVES CLASS 1000 WOG & 2000 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 1000 WOG & 2000 WOG
- Full Port
- Three-piece body
- Investment Cast Steel Construction
- Bolted Body
- Threaded ends as per ASME B1.20.1
- Socket weld ends as per ASME B16.11
- End to end dimensions as per WALWORTH standard



Regular Bill of Materials

No.	Description	Carbon Steel with Trim F4 (SS304)	Stainless Steel 316	Carbon Steel Trim F4 (SS304) NACE	Stainless Steel 316 with Trim F3 (SS316) NACE
1	Body	ASTM A216 GR WCB	ASTM A351 GR CF8M	ASTM A216 GR WCB	ASTM A351 GR CF8M
2	Seat Ring	PTFE + Graphite			
3	Ball	SS304	SS316	SS304	SS316
4	Stud	ASTM A193 Gr. B7	ASTM A193 Gr. B8	ASTM A193 Gr. B7M	ASTM A193 Gr. B8M
5	Gasket	PTFE			
6	Nut	ASTM A194 Gr. 2H	ASTM A194 Gr. 8	ASTM A194 Gr. 2HM	ASTM A194 Gr. 8M
7	End	ASTM A216 GR WCB	ASTM A351 GR CF8M	ASTM A216 GR WCB	ASTM A351 GR CF8M
8	Stem	ASTM A182 Gr. F304	ASTM A182 Gr. F316	ASTM A182 Gr. F304	ASTM A182 Gr. F316
*9	Stem Seat	PTFE			
10	Packing	PTFE			
11	Packing Gland	ASTM A216 GR WCB OR SS304	SS304	ASTM A216 GR WCB OR SS304	SS304
12	Stem Nut	ASTM A194 Gr. 2H	ASTM A194 Gr. 8	ASTM A194 Gr. 2HM	ASTM A194 Gr. 8M
13	Lever	ASTM A216 GR WCB			
*14	Identification Plate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel

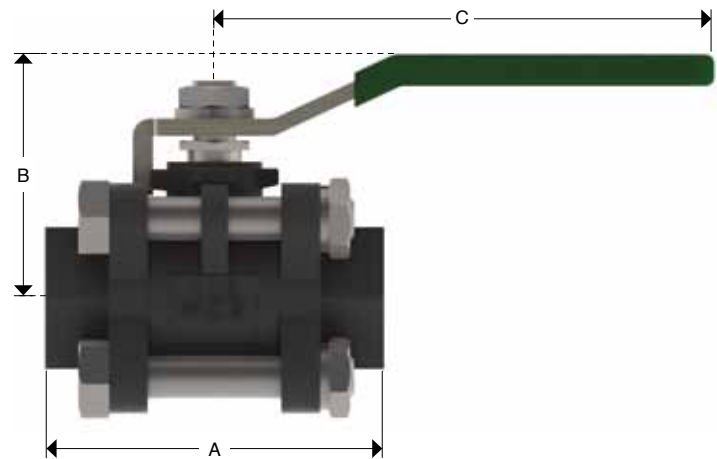
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WALWORTH STANDARD FLOATING BALL VALVES CLASS 1000 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 1000 WOG
- Full Port
- Three-pieces body
- Investment Cast Steel Construction
- Bolted Body
- Threaded ends as per ASME B1.20.1
- Socket weld ends as per ASME B16.11
- End to end dimensions as per WALWORTH standard

Lever Operator	
Catalog Figure No.	Type of Ends
7011	Threaded (S)
7017	Socket Weld (SW)



Dimensions and Weights

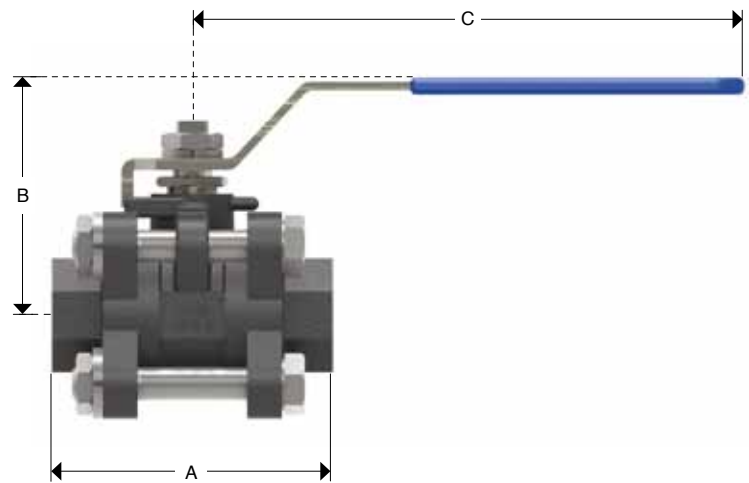
D Nominal Diameter	mm	6	10	15	20	25	32	40	50	65	80	100
	in	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
A	mm	50.4	50.4	61.4	70.2	79.6	93	102	124.2	156.2	179.2	218.4
	in	2	2	2 3/7	2 3/4	3 1/7	3 2/3	4	4 8/9	6 1/7	7	8 3/5
B	mm	42.5	42.5	49.6	58.1	61	78.3	82.5	90.9	114.5	124	176
	in	1 2/3	1 2/3	2	2 2/7	2 2/5	3	3 1/4	3 4/7	4 1/2	4 7/8	7
C	mm	101.5	101.5	101.5	124	124	152	152	190	242	242	327
	in	4	4	4	4 7/8	4 7/8	6	6	7 1/2	9 1/2	9 1/2	12 7/8
Weight 7011	kg	0.41	0.41	0.46	0.87	1.09	1.93	2.6	3.75	9.1	13.23	20.63
	lb	0.90	0.90	1.01	1.92	2.40	4.26	5.73	8.27	20.07	29.17	45.49

WALWORTH STANDARD FLOATING BALL VALVES CLASS 2000 WOG

Design Features

- Design in accordance with MSS SP110
- CLASS 2000 WOG
- Full Port
- Three-pieces body
- Investment Cast Steel Construction
- Bolted Body
- Threaded ends as per ASME B1.20.1
- Socket weld ends as per ASME B16.11
- End to end dimensions as per WALWORTH standard

Lever Operator	
Catalog Figure No.	Type of Ends
7411	Threaded (S)
7417	Socket Weld (SW)



Dimensions and Weights

D Nominal Diameter	mm	6	10	15	20	25	32	40	50
	in	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
A	mm	63	63	66	83	95	106.6	130	150.6
	in	2 1/2	2 1/2	2 3/5	3 1/4	3 3/4	4 1/5	5 1/8	6
B	mm	54	54	59	63	76	85	91	100
	in	2 1/8	2 1/8	2 1/3	2 1/2	3	3 1/3	3 4/7	4
C	mm	104	104	125	125	155	155	200	200
	in	4	4	5	5	6 1/9	6 1/9	7 7/8	7 7/8
Weight 7411	kg	0.47	0.45	0.64	0.89	1.27	1.99	2.91	4.39
	lb	1.04	0.99	1.41	1.96	2.80	4.39	6.42	9.68

WALWORTH STANDARD FLOATING BALL VALVES

CLASS 150, 300 & 600

Design Features

- Design in accordance with MSS SP-72, API-608 & API-6D
- CLASS 150, 300 & 600 as per ASME B16.34
- Full Port
- Two-piece body
- Cast Steel Construction
- Bolted Body
- Flanged ends as per ASME B16.5
- End to end dimensions as per ASME B16.10
- Butt Weld ends as per ASME B16.25
- Gear Operator (Optional)
- Valves could be supplied with ISO-5211 flange for operator installation (optional)



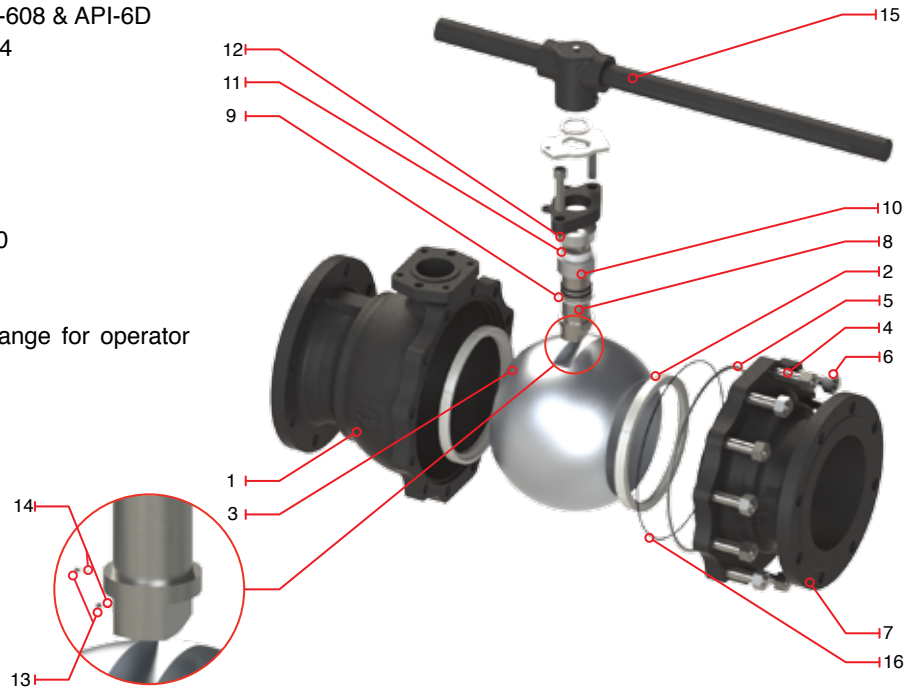
- ① Floating Ball. For all sizes & pressure ratings. The ball is only hold by the stem and is in movement with the direction of the fluid in order to seal with the seat rings.
- ② Body. Made of two pieces that includes the central body bolted with the end flange.
- ③ Floating Seat Ring. Two independent dynamic soft seat rings that get in contact with the floating ball which seal in one side of the valve depending on the fluid direction.
- ④ Stem Packing. It is a soft seal that ensure reliable operation high levels of sealing integrity when operating the valve.
- ⑤ Stem. The stem design is anti blow out and with an antistatic structure which is held up by the valve body and fits in the bottom in a small cavity in the top part of the floating ball.
- ⑥ Lever operator. It is supplied in all sizes to open and close the valve.
- ⑦ Gasket. It is a soft seal that has a reliable operation with high levels of sealing integrity between body and ends.
- ⑧ Antistatic device. Inconel springs with small balls are placed between stem-body and stem-floating ball to prevent static continuity.

WALWORTH STANDARD FLOATING BALL VALVES

CLASS 150, 300 & 600

Design Features

- Design in accordance with MSS SP-72, API-608 & API-6D
- CLASS 150, 300 & 600 as per ASME B16.34
- Full Port
- Two-piece body
- Cast Steel Construction
- Bolted Body
- Flanged ends as per ASME B16.5
- End to end dimensions as per ASME B16.10
- Butt Weld ends as per ASME B16.25
- Gear Operator (Optional)
- Valves could be supplied with ISO-5211 flange for operator installation (optional)



Regular Bill of Materials

No.	Description	Carbon Steel with Trim F4 (SS304)	Carbon Steel with Trim F3 (SS316)	Stainless Steel 316	Carbon Steel with Trim F4 (SS304) NACE	Stainless Steel 316 with Trim F3 (SS316) NACE
1	Body	ASTM A216 GR WCB	ASTM A216 GR WCB	ASTM A351 GR CF8M	ASTM A216 GR WCB	ASTM A351 GR CF8M
2	Seat Ring	RPTFE, PTFE or Nylon**				
3	Ball	ASTM A182 Gr. F304	ASTM A182 Gr. F316	ASTM A182 Gr. F316	ASTM A182 Gr. F304	ASTM A182 Gr. F316
4	Stud	ASTM A193 Gr. B7	ASTM A193 Gr. B7	ASTM A193 Gr. B8	ASTM A193 Gr. B7M	ASTM A193 Gr. B8M
5	Gasket	PTFE or Flexible Graphite + Stainless Steel				
6	Nut	ASTM A194 Gr. 2H	ASTM A194 Gr. 2H	ASTM A194 Gr. 8	ASTM A194 Gr. 2HM	ASTM A194 Gr. 8M
7	End	ASTM A216 GR WCB	ASTM A216 GR WCB	ASTM A351 GR CF8M	ASTM A216 GR WCB	ASTM A351 GR CF8M
8	Stem	ASTM A182 Gr. F304	ASTM A182 Gr. F304	ASTM A182 Gr. F316	ASTM A182 Gr. F304	ASTM A182 Gr. F316
9	Stem Seat	PTFE or RPTFE				
10	Packing	PTFE or Graphite				
11	Gland	ASTM A182 Gr. F304	ASTM A182 Gr. F316	ASTM A182 Gr. F316	ASTM A182 Gr. F304	ASTM A182 Gr. F316
12	Gland Flange	ASTM A216 GR WCB	ASTM A216 GR WCB	ASTM A351 GR CF8M	ASTM A216 GR WCB	ASTM A351 GR CF8M
13	Small ball	Stainless Steel				
14	Antistatic spring	Inconel 750				
15	Lever	Carbon Steel				
16	Backup O'ring	Viton				
*17	Identification Plate	Stainless Steel				

* Not Shown

** Material used as standard on Class 600