

BALL VALVE



A ball valve is a valve that opens by turning a handle, gearbox or other actuation methods attached to a ball inside the valve. The ball has a hole, or port, through the middle so that when the port is in line with both ends of the valve, flow will occur. When the valve is closed, the hole is perpendicular to the ends of the valve, and flow is blocked. The handle or lever will be in line with the port position letting you "see" the valve's position, position indicators will be applied to gearbox or actuators when required. Ball valves are durable and usually work to achieve perfect shutoff even after years of disuse. They are therefore an excellent choice for shutoff applications. There are two type of ball valve based on the ball type, floating ball valve and trunnion mounted ball valve. Depends on the bore size, ball valve is separated into full port ball valve and reduced port ball valve. There are three types of body styles of ball valve: one-piece, two piece split, three piece split, top entry and welded, GVC ball valves are available in two piece split, three piece split and welded.

Advantages of using Ball Valves:

- Quick quarter turn on-off operation
- Tight sealing with low torque
- Smaller in size than most other Valves

Types of Ball Valves

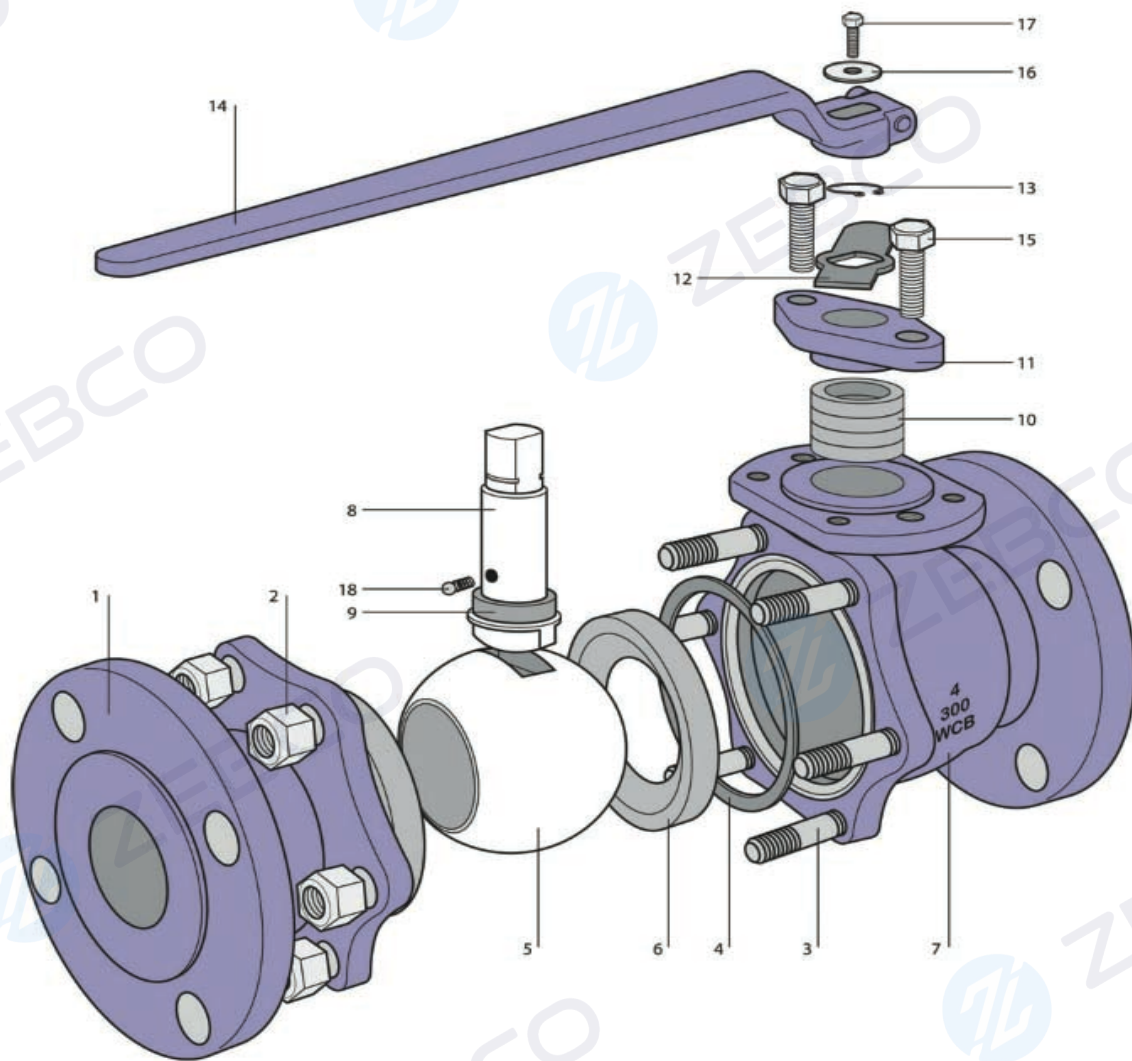
Ball Valves are basically available in three versions: full port, venturi port and reduced port. The full-port Valve has an internal diameter equal to the inner diameter of the pipe. Venturi and reduced-port versions generally are one pipe size smaller than the line size.

Ball Valves are manufactured in different body configurations and the most common are:

- Top entry Ball Valves allow access to Valve internals for maintenance by removal of the Valve Bonnet-cover. It is not required to be removed Valve from the pipe system.
- Split body Ball Valves consists of a two parts, where one part is smaller as the other. The ball is inserted in the larger body part, and the smaller body part is assembled by a bolted connection. The Valve ends are available as butt welding, socket welding, flanged, threaded and others.

Features

Split body design with flanged ends for fast installation, in-line maintenance and rebuilding
Solid ball construction provides structural integrity and minimizes flow turbulence
Mounting pad complies with ISO 5211 for ease and interchangeability of actuation
Bottom-loaded blow-out proof stem
Investment cast body & end cap on sizes 1/2" to 4". Sand cast body & end cap on sizes 5" to 10"
Body joint is designed to prevent excessive compression of valve internals, resulting in a consistent and low operating torque.
Basic design complies with ASME/ANSI B16.34
Flanged ends comply with ASME/ANSI B16.5
Face-to-face dimensions comply with ASME/ANSI B16.10
Tested according to ANSI/ASME B16.34 & API 598
Fire Tested to API 607/BS 6577



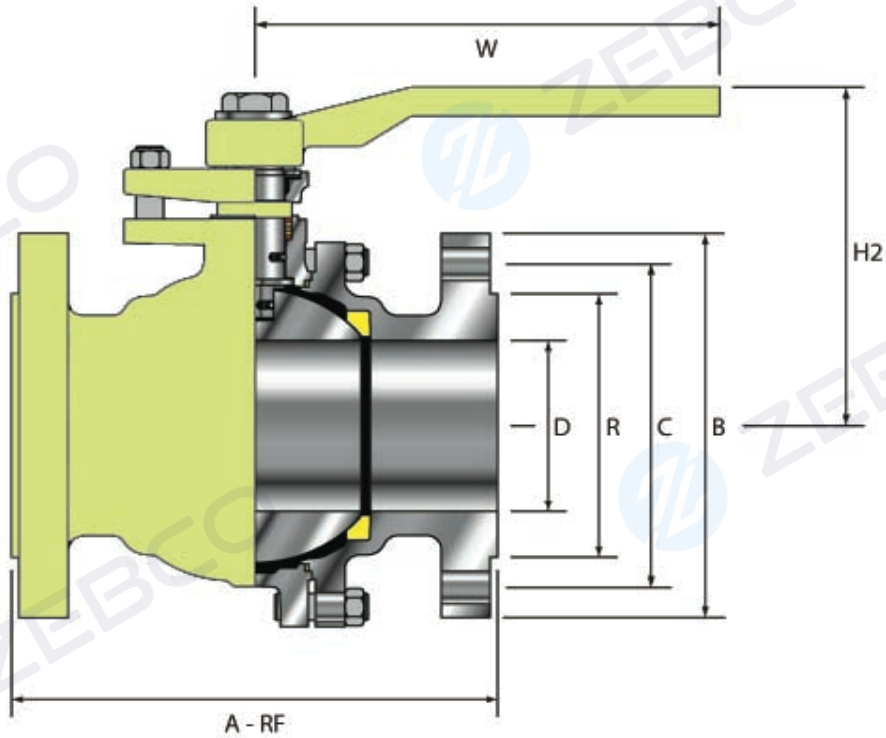
BILL OF MATERIAL

No.	Name of Part	Carbon steel	Stainless Steel
1	Body End Cap	ASTM A216 - WCB	ASTM A351-CF8M
2	Nut	Carbon Steel/GR.2H	AISI/ASME 304/GR.8
3	Body Joint Bolt	Carbon Steel/GR.B7	AISI/ASME 304/GR.B8
4	Body Gasket	PTFE	PTFE
5	Ball	ASTM A351-CF8M/316	ASTM A351-CF8M/316
6	Seat	PTFE	PTFE
7	Body	ASTM A216-WCB	ASTM A351-CF8M
8	Stem	ASTM A276-316	ASTM A276-316
9	Stem Thrust washer	PTFE	PTFE
10	Stem Packing	PTFE	PTFE
11	Gland Flange	ASTM A351-CF8	ASTM A351-CF8
12	Handle Stop	AISI/ASME 304	AISI/ASME 304
13	Snap ring	AISI/ASME 420	AISI/ASME 420
14	Handle	Carbon Steel	Carbon Steel
15	Gland Bolt	AISI/ASME 304	AISI/ASME 304
16	Washer	AISI/ASME 304	AISI/ASME 304
17	Cap Screw	AISI/ASME 304	AISI/ASME 304
18	Anti-static Device	316SS	316SS

2-Piece Flanged Floating Ball Valves Full Port

Size: 1/2" - 10"

Class: 150#



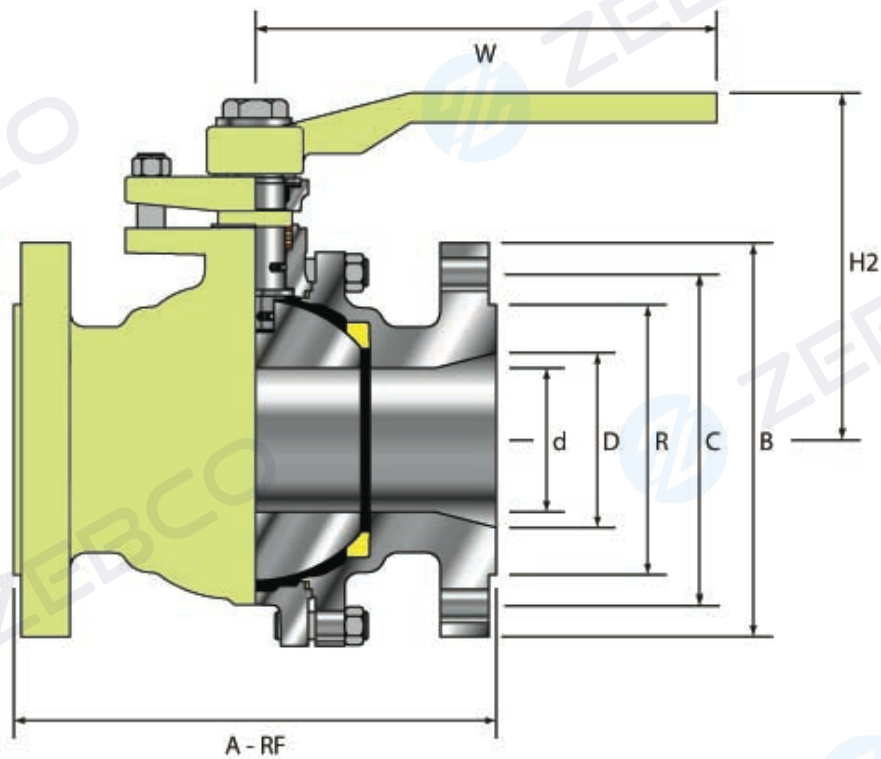
SIZE		Bore	End-to-End	Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
		D	A - RF	R	C	B	H2	W	
NPS	.5"	0.59	4.25	1.38	2.38	3.50	3.15	5.12	5
DN	15	15	108	35	61	89	80	130	2.3
NPS	.75"	.079	4.62	1.69	2.75	3.88	3.27	5.12	7
DN	20	20	117	43	70	99	83	130	3.0
NPS	1"	1.00	5.00	2.00	3.12	4.25	3.82	6.30	10
DN	25	25	127	51	79	108	97	160	4.5
NPS	1.5"	1.57	6.50	2.88	3.88	5.00	4.37	9.06	15
DN	40	40	165	73	99	127	111	230	7.0
NPS	2"	1.97	7.00	3.62	4.75	6.00	4.65	9.06	21
DN	50	50	178	92	121	152	118	230	9.5
NPS	2.5"	2.56	7.50	4.12	5.50	7.00	5.67	15.75	33
DN	65	65	191	105	140	178	144	400	15.0
NPS	3"	3.15	8.00	5.00	6.00	7.50	6.06	15.75	42
DN	80	80	203	127	152	191	154	400	19.0
NPS	4"	3.94	9.00	6.19	7.50	9.00	6.85	18.11	73
DN	100	100	229	157	191	229	174	460	33.0
NPS	6"	5.91	15.50	8.50	9.50	11.00	9.45	21.65	165
DN	150	150	394	216	241	279	240	550	75.0
NPS	8"	7.87	18.00	10.62	11.75	13.50	11.81	39.37	253
DN	200	200	457	270	299	343	300	1000	115.0
NPS	10"	9.84	21.00	12.75	14.25	16.00	13.98	39.37	506
DN	250	250	533	324	362	406	355	1000	230.0

CLASS 150

2-Piece Flanged Floating Ball Valves Reduced Port

Size: 2" - 10"

Class: 150#

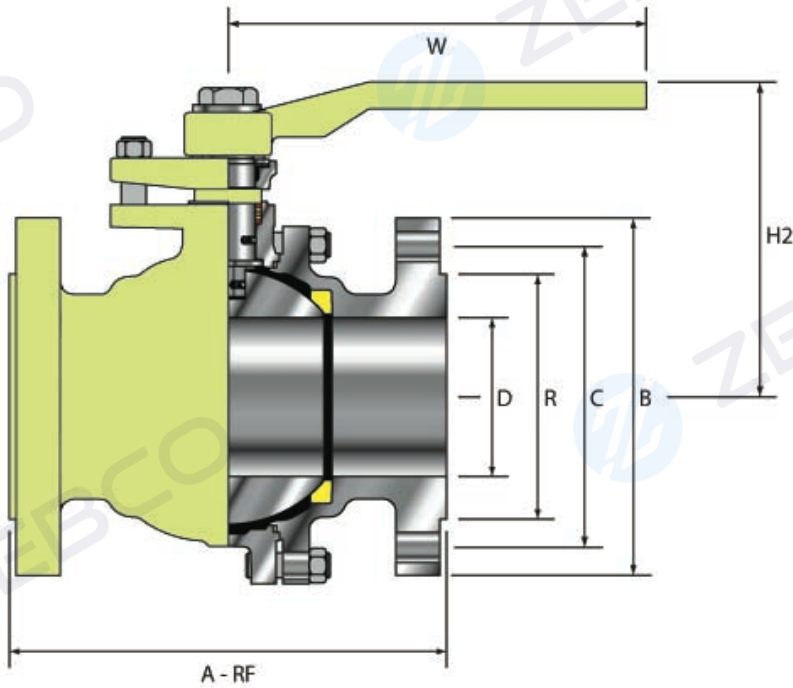


CLASS 150	SIZE		Bore		End-to-End	Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
			D	d	A - RF	R	C	B	H2	W	
NPS	2 X 1"	2.00	1.00	7.00	3.62	4.75	6.00	4.65	9.06	21	
DN	25	51.00	25.00	178	92	121	152	118	230	9.5	
NPS	3 X 2"	3.00	2.00	8.00	5.00	6.00	7.50	6.06	15.75	42	
DN	50	76.00	51.00	203	127	152	191	154	400	19.0	
NPS	4 X 3"	4.00	3.00	9.00	6.19	7.50	9.00	6.85	18.11	73	
DN	80	102.0	76.00	229	157	191	229	174	460	33.0	
NPS	6 X 4"	6.00	4.00	15.50	8.50	9.50	11.00	9.45	21.65	165	
DN	100	152.0	102.0	394	216	241	279	240	550	75.0	
NPS	8 X 6"	8.00	6.00	18.00	10.62	11.75	13.50	11.81	39.37	253	
DN	150	203.0	152.0	457	270	299	343	300	1000	115.0	
NPS	10 X 8"	10.00	8.00	21.00	12.75	14.25	16.00	13.98	39.37	506	
DN	200	254	203	533	324	362	406	355	1000	230.0	

2-Piece Flanged Floating Ball Valves Full Port

Size: 1/2" - 10"

Class: 300#



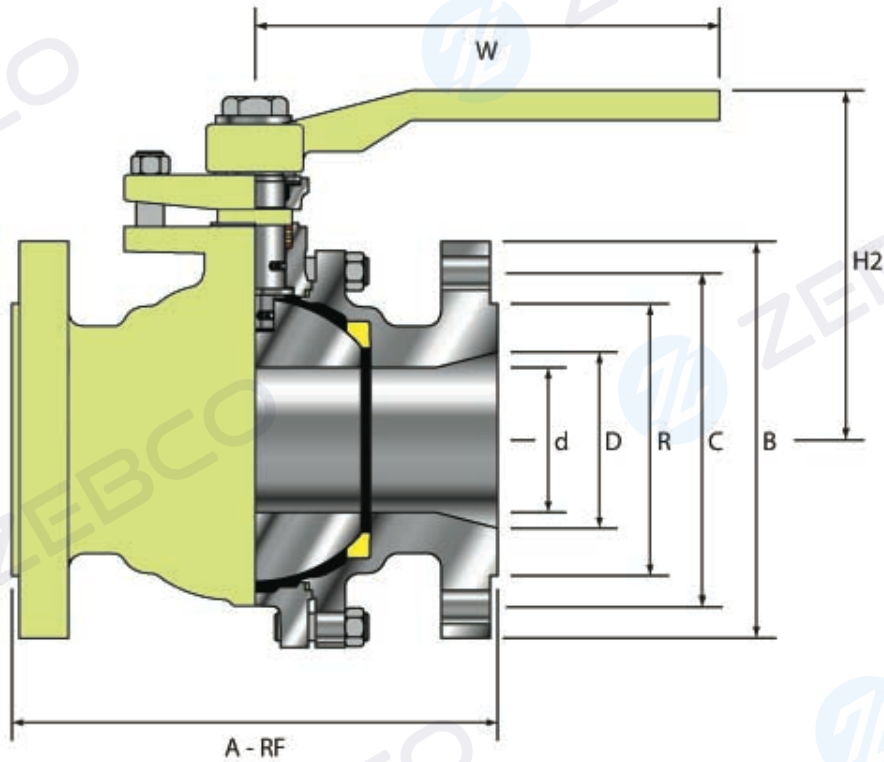
SIZE		Bore	End-to-End	Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
		D	A - RF	R	C	B	H2	W	
NPS	.5"	0.59	5.50	1.38	2.62	3.75	2.48	5.12	5.5
DN	15	15	140	35	67	95	63	130	2.5
NPS	.75"	.079	6.00	1.69	3.25	4.62	2.68	5.12	8
DN	20	20	152	43	83	117	68	130	3.6
NPS	1"	1.00	6.50	2.00	3.5	4.88	2.99	6.30	12
DN	25	25	165	51	89	124	76	160	5.5
NPS	1.5"	1.57	7.50	2.88	4.50	6.12	3.46	9.06	23
DN	40	40	191	73	114	155	88	230	10.5
NPS	2"	1.97	8.50	3.62	5.00	6.50	3.70	9.06	32
DN	50	50	216	92	127	165	94	230	14.5
NPS	2.5"	2.56	9.50	4.12	5.88	7.50	4.53	15.75	52
DN	65	65	241	105	149	191	115	400	23.5
NPS	3"	3.15	11.12	5.00	6.62	8.25	4.72	15.75	66
DN	80	80	282	127	168	210	120	400	30.0
NPS	4"	3.94	12.00	6.19	7.88	10.00	7.68	18.11	143
DN	100	100	305	157	200	254	195	460	65.0
NPS	6"	5.91	16	8.50	10.62	12.50	9.45	21.65	209
DN	150	150	403	216	270	318	240	550	95.0
NPS	8"	7.87	20	10.62	13.00	15.00	11.81	39.37	330
DN	200	200	502	270	330	381	300	1000	150.0
NPS	10"	9.84	22.38	12.75	15.25	17.50	13.98	39.37	550
DN	250	250	568	324	387	445	355	1000	250.0

CLASS 300

2-Piece Flanged Floating Ball Valves Reduced Port

Size: 2" - 10"

Class: 300#

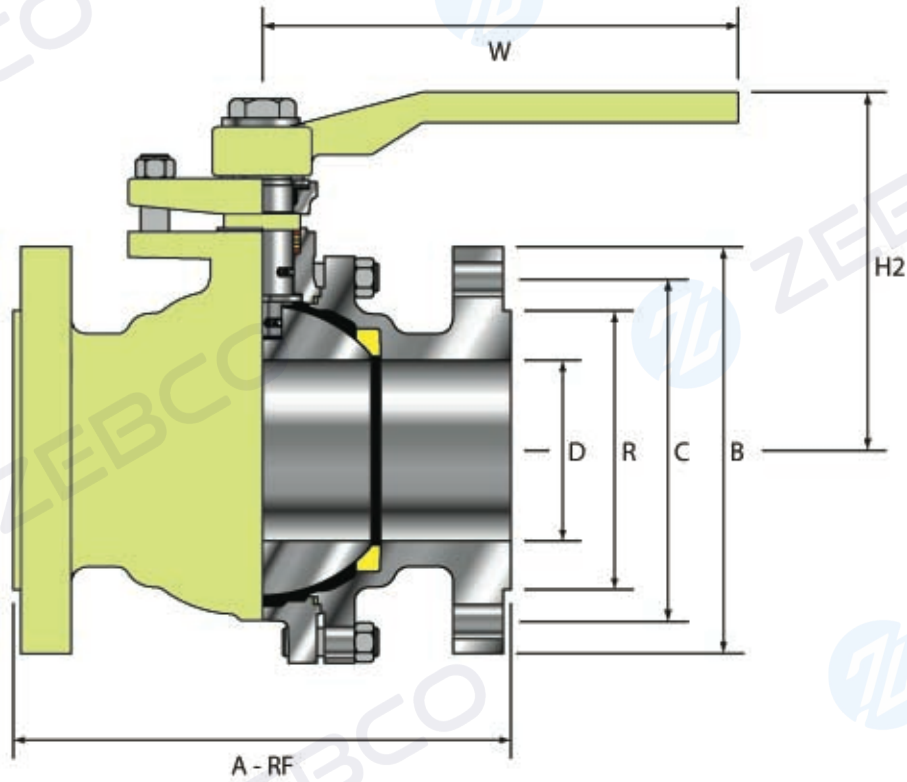


CLASS 300	SIZE		Bore		End-to-End	Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
			D	d	A - RF	R	C	B	H2	W	
NPS	2 X 1"	2.00	1.00	8.50	3.62	5.00	6.50	3.70	9.06	32	
DN	25	51.00	25.00	216	92	127	165	94	230	14.5	
NPS	3 X 2"	3.00	2.00	11.12	5.00	6.62	8.25	4.72	15.75	66	
DN	50	76.00	51.00	282	127	168	210	120	400	30.0	
NPS	4 X 3"	4.00	3.00	12.00	6.19	7.88	10.00	7.68	18.11	143	
DN	80	102.0	76.00	305	157	200	254	195	460	65.0	
NPS	6 X 4"	6.00	4.00	16	8.50	10.62	12.50	9.45	21.65	209	
DN	100	152.0	102.0	403	216	270	318	240	550	95.0	
NPS	8 X 6"	8.00	6.00	20	10.62	13.00	15.00	11.81	39.37	330	
DN	150	203.0	152.0	502	270	330	381	300	1000	150.0	
NPS	10 X 8"	10.00	8.00	22.38	12.75	15.25	17.50	13.98	39.37	550	
DN	200	254	203	568	324	387	445	355	1000	250.0	

2-Piece Flanged Floating Ball Valves Full Port

Size: 1/2" - 6"

Class: 600#



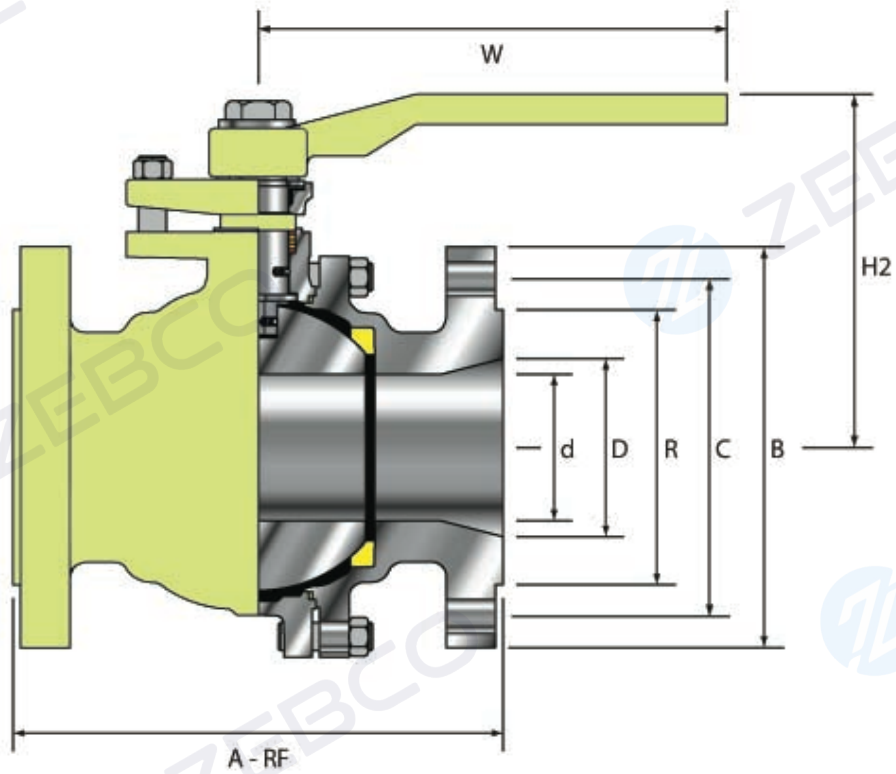
SIZE		Bore	End-to-End	Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
		D	A - RF	R	C	B	H2	W	
NPS	.5"	.51	6.5	/	2.63	3.74	3.54	4.72	12
DN	15	13	165	/	66.7	95	90	120	5
NPS	.75"	.75	7.5	/	3.25	4.53	3.66	5.52	18
DN	20	19	190	/	82.6	115	93	140	8
NPS	1"	1	8.5	/	3.50	4.92	3.94	6.49	25
DN	25	25	210	/	88.9	125	100	165	11
NPS	1.5"	1.5	9.5	/	4.50	6.10	4.96	7.87	30
DN	40	38	241	/	114.3	155	126	200	14
NPS	2"	2	11.5	3.62	5.00	6.50	5.31	9.06	40
DN	50	51	292	92	127	165	135	230	18
NPS	3"	3	14	5.00	6.62	8.25	6.7	15.75	75
DN	80	76	356	127	168	210	170	400	34
NPS	4"	4	17	6.19	8.5	10.75	8.1	18.11	165
DN	100	102	432	157	200	254	206	460	75
NPS	6"	6	22	8.50	11.5	14	13.1	21.65	221
DN	150	152	559	216	270	318	331	550	101

CLASS 600

2-Piece Flanged Floating Ball Valves Reduced Port

Size: 3" - 6"

Class: 600#

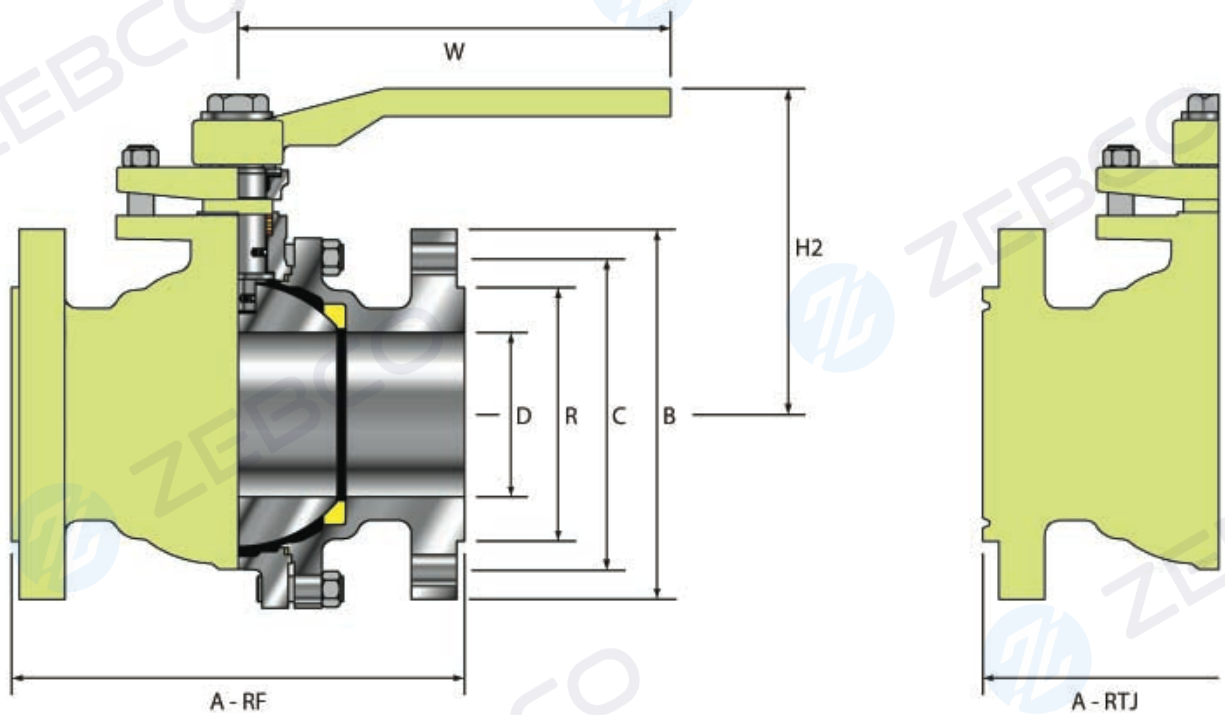


CLASS 600	SIZE		Bore		End-to-End	Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
			D	d	A - RF	R	C	B	H2	W	
NPS	3 X 2"	2.00	2.00	14	5.00	6.62	8.25	5.6	15.75	75	
DN	50	51.00	51.00	356	127	168	210	142	400	34	
NPS	4 X 3"	3.00	3.00	17	6.19	8.5	10.75	6.7	18.11	165	
DN	80	76.00	76.00	432	157	216	273	170	460	75	
NPS	6 X 4"	4.00	4.00	22	8.50	11.5	14	8.1	21.65	221	
DN	100	102.0	102.0	559	216	292	356	206	550	101	

2-Piece Flanged Floating Ball Valves Full Port

Size: 1/2" - 2"

Class: 1500#



CLASS 1500	SIZE		Bore	End-to-End		Raised Face OD	Bolt Circle Diameter	Flange OD	Center - to - Top	Lever Length	WEIGHTS LBS/KG
			D	A - RF	A-RTJ	R	C	B	H2	W	
	IN	0.5"	0.51	8.5	8.6	/	3.3	4.7	3.9	9.06	14
	MM	13	13	216	219	/	83	120	99	230	6
	IN	0.75"	0.75	9	9.1	/	3.5	5.2	4	9.06	20
	MM	19	19	229	231	/	89	130	102	230	9
	IN	1"	1	10	10.0	/	4.1	5.9	4.5	9.06	29
	MM	25	25	254	257	/	102	150	115	230	13
	IN	1.5"	1.5	12	12.2	/	4.9	7.1	5.7	9.06	40
	MM	38	38	305	308	/	124	180	144	230	18
IN	2"	1.97	14.48	14.6	3.62	5.00	6.50	6.29	9.06	48	
MM	51	50	368	371	92	127	165	160	230	22	

2pc BALL VALVE

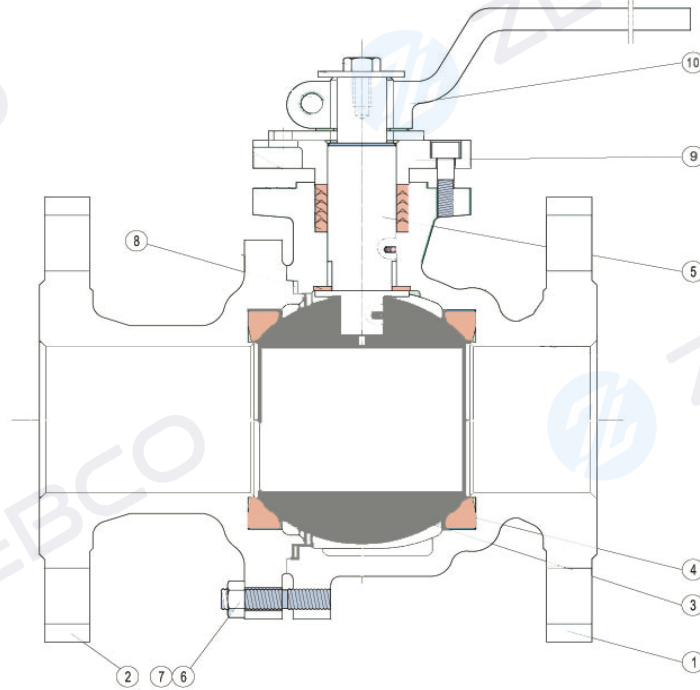
SIZE: 6"

RATING: 150#

OUR MANUFACTURING RANGE

SIZE: 1.5" TO 24"

RATING: 150# TO 2500#



Manufacturing STD: BS 5351
 Testing & Inspection STD: BS 6755
 Face to Face: As Per ASME B 16.10
 End Connection: As Per ASME B 16.5

BILL OF MATERAIL

PART NO.	NAME OF PART	QTY	MATL. SPEC (RAW MATL. SIZE)	MATERIAL	WEIGHT	RATES	UNIT	AMOUNT
1	BODY	01	Casting (WCB, SS304, SS316...ETC)	WCB	35.00	95/-	Kg	3,325/-
2	ADAPTER	01	Casting (WCB, SS304, SS316...ETC)	WCB	22.00	95/-	Kg	2,090/-
3	BALL	01	Casting (SS304, SS316...ETC)	SS304	20.00	275/-	Kg	5,500/-
4	SEAT	02	PTFE	PTFE	---	500/-	Pc	1,100/-
5	STEM	01	φ 32 X 100 (SS304,SS316...ETC)	SS304	---	550/-	Pc	550/-
6	BODY STUD	08	φ ½" UNC X 80mm (ASTM A193 GR. B7)	B7	---	40/-	Pc	320/-
7	BODY NUT	16	φ ½" UNC HEX NUT (ASTM A194 GR. 2H)	2H	---	25/-	Pc	400/-
8	BODY GASKET	01	φ 220 X 200 X 3.2mm (GRAPHOIL)	SPWW	---	600/-	Pc	600/-
9	GLAND FLANGE	01	Casting (WCB, SS304, SS316...ETC)	WCB	0.50	95/-	Kg	48/-
10	LEVER	01	Fabricated (M.S., SS304, SS316...ETC)	M.S.	---	500/-	Pc	500/-
11	MACHINERY, DRILLING & ASSEMBLY COST					250/-	06	1,500/-
12	HANDLING COST					3%	-	352/-
							TOTAL AMOUNT	16,285/-