

Ball Valve Fire Safe Series Cast Steel BVFS607

In process industries, petroleum and flammable applications often require Fire-safe equipment. For ideal fire-safe valves, SBM offers the Fire Safe Ball Valve Series, Direct Mount, 2 piece Full Port, Flanged end Valve in Ansi Class 150 and 300 Ansi B16.5 RF, where maximum flow capacity and minimum pressure drops are required. Our Fire Safe Ball Valve Api 6D, meets Api 607 4th Edition and API 6FA, with Fire Safe design, including fire safe lip, graphite seal, and anti-static device.

Standard Features:

- A) Stem Packing:** The stem packing is designed to self-adjust for temperature variation and pipeline system vibration, and thus providing safe working conditions of the valve. In SBM PTV ball valves, graphite stem packing is used to prevent stem leakage after fire.
- (B) Blowout-Proof Stem:** The stem is inserted from inside the body bore. This particular design prevents the stem from shooting out when there is excess pressure in the bore caused by high temperature heat.
- (C) Anti-Static Device:** All SBM PTV ball valves are equipped with Anti-Static Device in the ball bore. This device provides a grounding path between the valve body and the ball for static electric charges built up by valve operation.
- D) Floating Ball Design:** The floating ball design, combined with soft seat, offers bubble-tight shutoff, low operating torque, and prolonged life cycle. For firesafe purposes, the floating ball design plays important role in the formation of secondary metal-to-metal sealing property.
- (E) Fire-Safe Contact:** The special designed fire-safe contact forms an alternative seal after the soft ball seat has been burnt away during fire. The new metal-to-metal seal reduces the leaking possibilities to the minimum.
- (F) Valve Operation:** SBM PTV Ball Valves are provided with Handlever or Gearbox operators according to the torques requirement. Square stem and twin ISO 5211 pattern mounting pad allow easy valve automation product installation with bracket and adaptor SBM PTV Ball Valves valves can also be provided with pneumatic, electric, hydro-pneumatic, hydraulic, electro-pneumatic actuators.

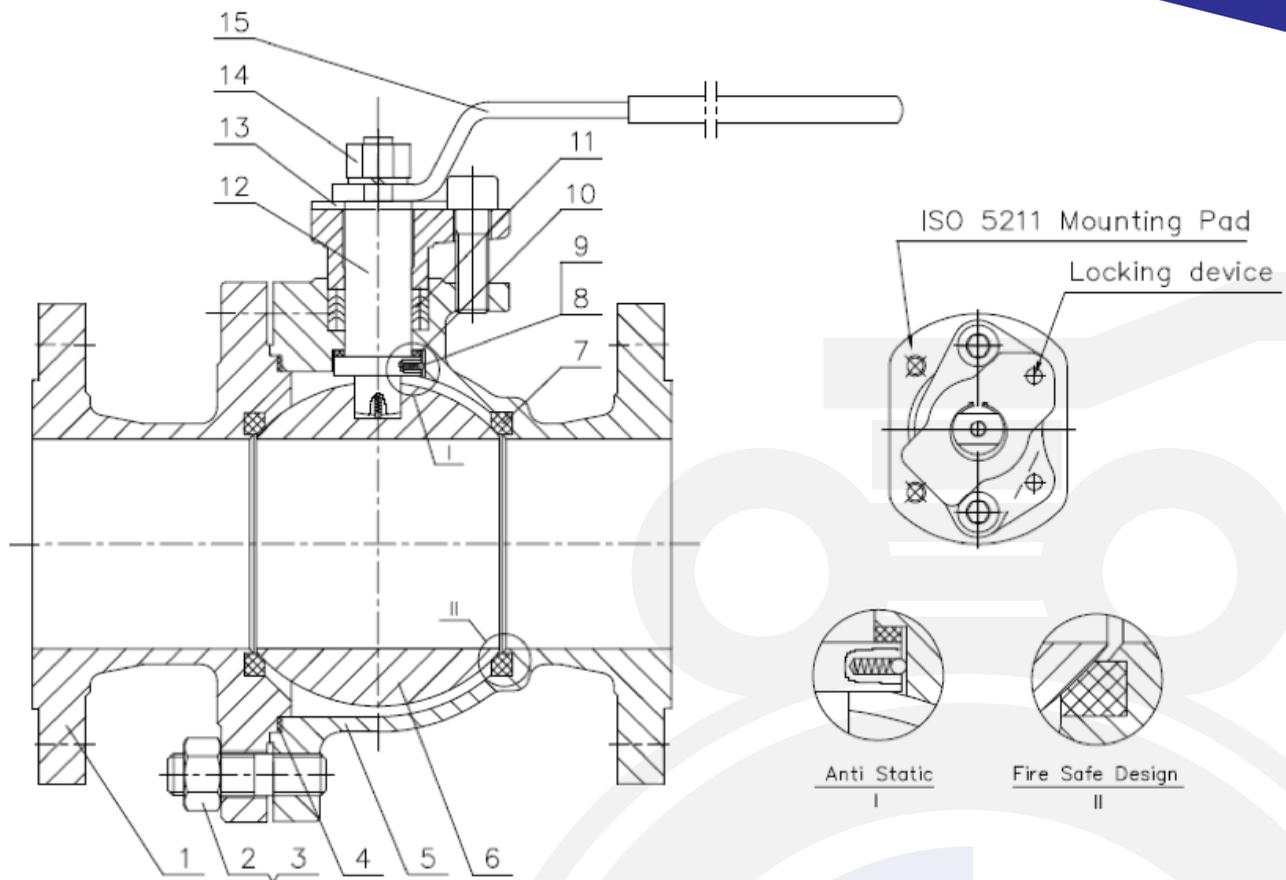


Technical Data BVFS607

1. Size range: NPS 1/2" ~8"
2. Pressure ratings: 150LB and 300LB
3. Working temperature: -29° ~ +200°C.
4. Service Fields: Main uses for Petroleum, flammable media, Water, Air, Steam, Gas, and Oil
5. Body Material: A216 WCB
6. Trim Material: SS316
7. Seat Material: RPTFE

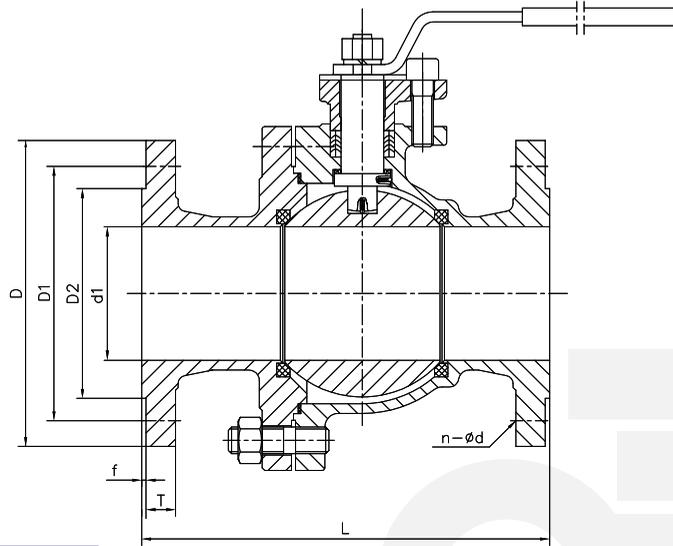
Performance Standard

1. Design and manufacture standard as to: API 6D
2. Face-to-face dimension standard as to: ASME B16.10
3. Flange dimension conforms as to: ASME B16.5 Finish, Flange facing : RA=3.2-6.4 Micron
4. Testing And Inspection as to: API 598
5. Pressure-temperature conforms as to: ASME B16.34
6. Fire Safe Design Conforms To: API 607 / API 6FA
7. Anti Corrosion as per NACE MR-0175(2002) requirement
8. Locking Device for safe service
9. Mounting platform conforming to ISO5211,



Part List:

No.	Part Name	Material	Standard
1.	Bonnet	WCB	ASTM A216
2.	Bonnet Bolt	B7	ASTM A193
3.	Bonnet Nut	2H	ASTM A194
4.	Gasket	SS316+Graphite	MFR-STD
5.	Body	WCB	ASTM A216
6.	Ball	F316	ASTM A182
7.	Seat	RPTFE	MFR-STD
8.	Anti static Ball	SS316	ASTM A276
9.	Anti Static Spring	SS316	ASTM A276
10.	Thrust ring	PTFE	MFR-STD
11.	Packing	Graphite	MFR-STD
12.	Stem	F316	ASTM A182
13.	Stopper	CS+EZP	AISI 1025/Zinc Coated
14.	Stem Nut	2H	ASTM A194
15.	Hand Lever	SS201+PVC	ASTM A276



Main dimension

Class 150LB RF

Flange dimension standard conforms as to: ASME B16.5

NPS	d1	L	D	D1	D2	T	n-Ød	f	Max Working Torque(N*M)	Weight Kg
1/2"	15	108	89	60.3	35	10	4-Ø16	2	3	2
3/4"	19	117	99	69.9	43	11.5	4-Ø16	2	5	2.5
1"	25	127	108	79.4	51	13	4-Ø16	2	11	3.3
1 1/2"	38	165	127	98.4	73	16	4-Ø16	2	16	6
2"	49	178	152	120.7	92	17.5	4-Ø19	2	25	9
2 1/2"	62	190	178	139.7	105	21	4-Ø19	2	50	13
3"	74	203	191	152.4	127	22.5	4-Ø19	2	65	18.4
4"	100	229	229	190.5	157	22.5	8-Ø19	2	125	27.5
6"	150	394	279	241.3	216	24	8-Ø22	2	410	60.3
*8"	200	457	343	297.5	270	27.5	8-Ø22	2	700	720

Remark: 150 LB-8" Ball valve is Gear Operation

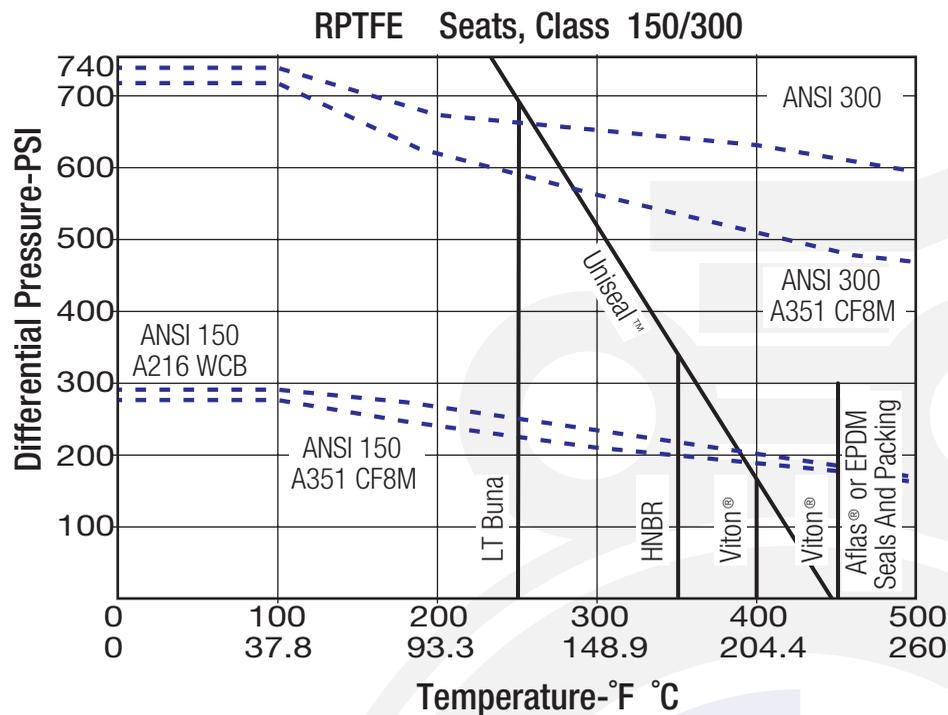
Class 300LB RF

Flange dimension standard conforms as to: ASME B16.5

NPS	d1	L	D	D1	D2	T	n-Ød	f	Max Working Torque(N*M)	Weight Kg
1/2"	15	140	95	66.7	35	13	4-Ø16	2	7	2.5
3/4"	19	152	117	82.6	43	14.5	4-Ø19	2	12	3
1"	25	165	124	88.9	51	16	4-Ø19	2	26	4.5
1 1/2"	38	190	155	114.3	73	19.5	4-Ø22	2	38	8.5
2"	49	216	165	127	92	21	8-Ø19	2	60	12
2 1/2"	62	241	191	149.2	105	24	8-Ø22	2	120	11.5
3"	74	283	210	168.3	127	27	8-Ø22	2	160	26
4"	100	305	254	200	157	30.5	8-Ø22	2	280	40
6"	150	403	318	269.9	216	35	12-Ø22	2	950	72
*8"	200	502	381	330.2	216	40	12-Ø25.5	2	1550	180

300LB-8" Ball valve is Gear Operation

* Max Working Torque is with safety factor 1.2



Low temperature Limits

Body Material	°F	°C
WCC	-20°	-28.9
LCC	-50°	-45.6
WCB	-20°	-28.9
Body CF8M	-50°	-45.6

Inch	DN	Cv	Kv
1/2"	15	23	19.7
3/4"	20	45	38.6
1"	25	77	66.0
1 1/2"	40	192	165
2"	50	358	307
2 1/2"	65	611	524
3"	80	858	736
4"	100	1512	1296
6"	150	3664	3140
8"	200	9500	8080

The left table represents the Flow Coefficients (CV) an Flow Factor (KV) for ball valves. This number represents the volume of water at 60°F that will flow in US gallon per minute through a valve with a 1 lb/in² pressure drop across in the full open position. For Kv, it is the flow of water with temperature from 5°C - 30°C in cubic meters per hour (m³/h) with a pressure drop of 1 bar.

$$Cv = F \sqrt{\frac{SG}{\Delta P}}$$

The Cv is dependent on flow rate, pressure drop, specific gravity. The larger the Cv value, the easier the fluid will flow within the valve. However, Cv value is easily affected by various factors, such as fluid type, fluid viscosity, saturated steam pressure.

ORDERING CODE:

Example: BVCS-21- 150RF-200

Ball Valve, Cast Steel Fire Safe, SS316 ball and stem, RPTFE
Seat, Class 150, Size 2"

Available Ball and Stem Material:

SS304 CF8 Stainless Steel: 1

SS316 CF8M Stainless Steel: 2

SS316L CF3M Stainless Steel: 3

Available Seat Material Code:

PTFE: 1

RPTFE: 2

Available Size Code:

½": 50

¾": 75

1": 100

1 ½": 150

2": 200

2 ½": 250

3": 300

4": 400

5": 500

6": 600

8": 800