



belgaum
aqua valves pvt. ltd.



GATE GLOBE CHECK VALVES

CAST STEEL GATE - GLOBE & CHECK VALVES

DESIGN STD :

GATE VALVE : API602/BS EN ISO 15761

GLOBE VALVE : API602/BS EN ISO 15761

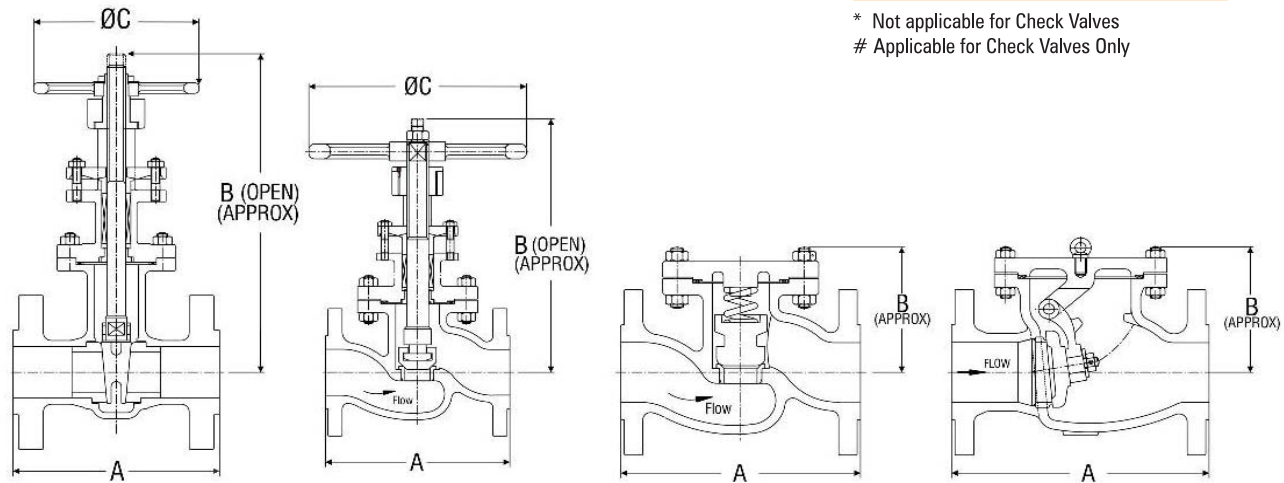
CHECK VALVE : API602/BS EN ISO 15761

Test Pressure in kg/cm² (g)

Class	150	300
Hyd. Shell	30	79
Seat / Back Seat*	23	58
Seat (min)#	6	15
Air Seat	7	7

* Not applicable for Check Valves

Applicable for Check Valves Only



Dimensions are in mm (Inch)

Size	Gate Valve						Globe Valve						Lift Check Valve				Swing Check Valve			
	A		B		ØC		A		B		ØC		A		B		A		B	
	CLASS RATING						CLASS RATING						CLASS RATING				CLASS RATING			
	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300	150	300
15	108	140	210	108	100	100	108	152	205	205	100	100	108	152	72	72	-	-	-	-
20	117	152	215	117	100	100	117	178	210	210	100	100	117	178	75	75	-	-	-	-
25	127	165	250	127	150	150	127	203	230	230	150	150	127	203	79	79	-	-	-	-
32	140	178	265	140	150	150	140	216	235	235	150	150	140	216	83	83	-	-	-	-
40	165	190	300	165	200	200	165	229	260	260	200	200	165	229	95	95	165	241	95	95

1) Dimensions "A" as per ASME B16.10 2) Flanges as per ASME B16.5

Part Name	Materials of Construction
Body / Bonnet / Cover	WCB / LCB / CF8 / CF8M
Hand Wheel	Malleable Iron
Gland / Seat Ring / Stem / Bonnet Bush	410 / 304 / 316
Yoke Sleeve / Yoke Bush	A 536 Gr. 65 - 45 - 12
Wedge / Disc	CA15 / CF8 / CF8M
Gland Flange	Carbon Steel - Galvanised
Packing	Grafoil
Gasket	Spiral Wound SS 304 with Grafoil Filled
Body Stud	A193 Gr. B7 - Zn. Plated
Body Nut	A194 Gr. 2H - Zn. Plated
Spring	304 / 316

Size	Weight (Approx) in kgs.							
	GTV		GLV		LCV		SCV	
	CLASS RATING							
	150	300	150	300	150	300	150	300
15	4.0	4.6	4.1	4.5	2.9	3.6	-	-
20	4.5	6.1	4.6	6.2	3.4	5.4	-	-
25	6.2	7.4	6.1	7.2	4.6	6.2	-	-
32	8.7	10.7	7.7	10.0	5.5	8.4	-	-
40	11.2	14.2	9.2	13.0	6.4	10.6	6.8	10.5

GTV = GATE VALVE, GLV = GLOBE VALVE

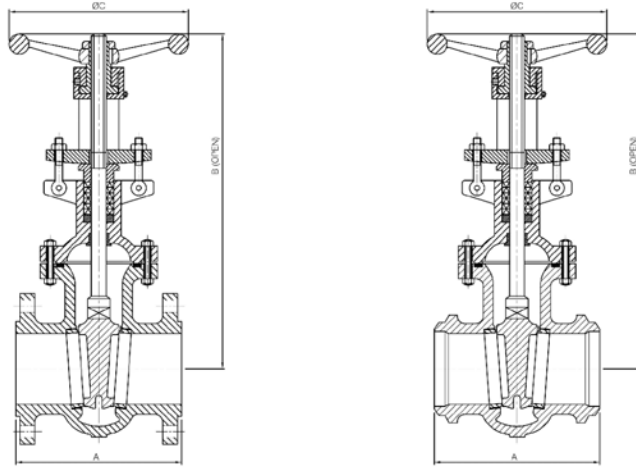
LCV = LIFT CHECK VALVE

SCV = SWING CHECK VALVE

- 1) Stellite trim and other materials available on request
- 2) All Body and Bonnet in Corrosion resistant materials are investment casting and are radiographic quality as per ASTM E 446 Level III
- 3) Ring joint, Large or Small Tongue & Groove Flanges are available on requests
- 4) Butt Weld ends to ASME B16.25 are available on request
- 5) IBR III - C Certificate on request

GATE VALVES

CLASS-150-300-600



Features :

Heavy duty OS & Y type, bolted bonnet, rising stem, non rising handwheel, renewable seating for Carbon Steel Valves, integral for Stainless Steel Valves. Valves with most advanced design features provide the ultimate in dependable, economic flow control.

DESIGN STD : API 600, ASME B16.34

TESTING STD: API 598

Test Pressure in bar (psi)			
Class	150	300	600
Hyd. Shell	30(435)	77 (1117)	155 (2248)
Seat / Black Seat	22 (319)	57 (827)	113 (1639)
Air Seat		6.9 (100)	

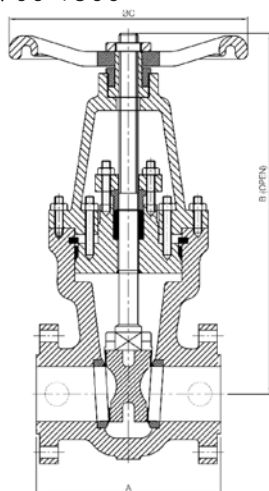
Dimensions are in mm (Inch)													
Size	Class - 150				Class - 300				Class - 600				
mm (inch)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	BWE
50 (2)	178 (7.0)	355 (14.0)	200 (7.9)	16.5 (36)	216 (8.5)	355 (14.0)	200 (7.9)	19 (42)	292 (11.5)	425 (16.7)	250 (9.8)	36 (79)	28 (62)
65 (2 1/2)	190 (7.5)	415 (16.3)	200 (7.9)	22 (49)	241 (9.5)	435 (17.1)	250 (9.8)	35 (77)	330 (13.0)	430 (16.9)	250 (9.6)	41 (90)	34 (75)
80 (3)	203 (8.0)	440 (17.3)	250 (9.8)	29 (64)	282 (11.1)	475 (18.7)	250 (9.8)	48 (106)	356 (14.0)	480 (18.9)	300 (11.8)	60 (132)	42 (93)
100 (4)	229 (9.0)	535 (21.1)	250 (9.8)	40 (88)	305 (12.0)	560 (22.0)	300 (11.8)	64 (141)	432 (17.0)	605 (23.8)	450 (17.7)	107 (236)	70 (154)
125 (5)	254 (10.0)	635 (25.0)	300 (11.8)	55 (121)	381 (15.0)	690 (27.2)	450 (17.7)	88 (194)	508 (20.0)	695 (27.4)	450 (17.7)	151 (333)	108 (238)
150 (6)	267 (10.5)	750 (29.5)	300 (11.8)	69 (152)	403 (15.9)	790 (31.1)	450 (17.7)	125 (276)	559 (22.0)	835 (32.9)	600 (23.6)	217 (478)	142 (313)
200 (8)	292 (11.5)	960 (37.8)	450 (17.7)	123 (271)	419 (16.5)	1000 (39.4)	450 (17.7)	216 (476)	660 (26.0)	1090 (42.9)	600 (23.6)	355 (783)	246 (542)
250 (10)	330 (13.0)	1165 (45.9)	450 (17.7)	189 (417)	457 (18.0)	1235 (48.6)	600 (23.6)	332 (732)	787 (31.0)	1285 (50.6)	750 (29.5)	575 (1268)	395 (871)
300 (12)	356 (14.0)	1410 (55.5)	600 (23.6)	281 (620)	502 (19.8)	1480 (58.3)	600 (23.6)	545 (1202)	838 (33.0)	1525 (60.0)		765 (1687)	600 (1323)
350 (14)	381 (15.0)	1600 (63.0)	600 (23.06)	406 (895)	762 (30.0)	1615 (63.6)	★ ★	750 (1654)	-	-	-	-	-
400 (16)	406 (16.0)	1725 (67.9)	750 (29.5)	466 (1027)	838 (33.0)	1965 (77.4)	★ ★	1080 (2381)	-	-	-	-	-
450 (18)	432 (17.0)	1885 (74.2)	★ ★	611 (1347)	914 (36.0)	2085 (82.1)	★ ★	1320 (2910)	-	-	-	-	-
500 (20)	457 (18.0)	2185 (86.0)	★ ★	754 (1662)	991 (39.0)	2305 (90.7)	★ ★	2035 (4994)	-	-	-	-	-
600 (24)	508 (20.0)	2650 (104.3)	★ ★	1280 (2822)	1143 (45.0)	2640 (103.9)	★ ★	2620 (5776)	-	-	-	-	-
650 (26)	559 (22.0)	2710 (106.7)	★ ★	1508 (3325)	-	-	-	-	-	-	-	-	-
700 (28)	610 (24.0)	2925 (115.2)	★ ★	1735 (3825)	-	-	-	-	-	-	-	-	-
750 (30)	610 (24.0)	3130 (123.2)	★ ★	2535 (5589)	-	-	-	-	-	-	-	-	-
800 (32)	660 (26.0)	3295 (129.7)	★ ★	3330 (7341)	-	-	-	-	-	-	-	-	-
900 (36)	711 (28.0)	3720 (146.5)	★ ★	4550 (10031)	-	-	-	-	-	-	-	-	-
1000 (40)	762 (30.0)	4385 (172.5)	★ ★	5280 (11640)	-	-	-	-	-	-	-	-	-

MATERIALS : REFER TO MATERIAL CHART OF NEXT SHEET

1) Nett in Kg. (lbs) approx. (without obligation) for Flanged Ends. ★ Bevel Gear Actuators mandatory. ■ Butt Weld Ends to ASME B1625. ■ End to End dim. for Class 150 Butt Weld Ends as per manufacturer standard. ■ By-pass arrangement & Pressure Relief device available on request. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Valves can be supplied with Electric or Gear Actuators. ■ Ring Joint. Large or Small Tongue & Grooves Flanges are available on request

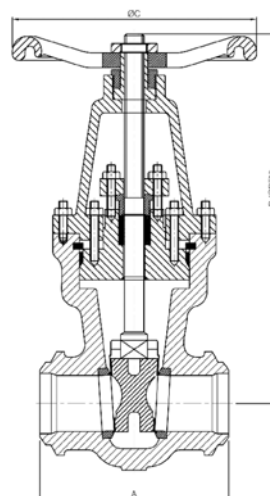
PRESSURE SEAL GATE VALVES

CLASS-900-1500



Features :

Heavy duty OS & Y type, Pressure Seal bonnet, rising stem, non rising handwheel, renewable seating. wall thickness as per ASME B16.34, Valves with most advanced design features provide the ultimate in dependable, economical flow control.



DESIGN STD : ASME B16.34

TESTING STD : API 598,ASME B16.34

Test Pressure in bar (psi)		
Class	900	1500
Hyd. Shell	230(3335)	384(5568)
Seat / Black Seat	169(2451)	282(4089)
Air Seat		6.9(100)

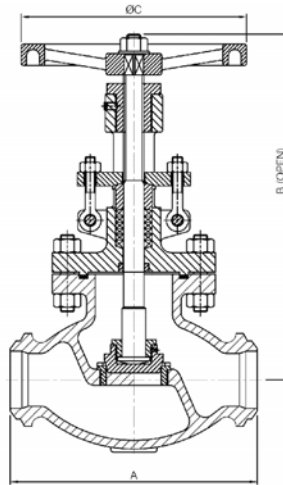
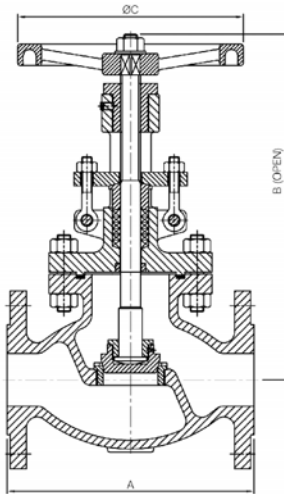
Dimensions are in mm (Inch)												
Size	Class - 900						Class - 1500					
mm (inch)	← A →		B	ØC	← Wt 1 →		← A →		B	ØC	← Wt 1 →	
	FE	BWE			FE	BWE	FE	BWE			FE	BWE
50 (2)	368 (14.5)	216 (8.5)	505 (19.9)	300 (11.8)	68 (150)	38 (84)	368 (14.5)	216 (8.5)	505 (19.9)	300 (11.8)	68 (150)	38 (84)
65 (2 ½)	419 (16.5)	254 (10.0)	454 (21.5)	450 (17.7)	92 (203)	57 (126)	419 (16.5)	254 (10.0)	545 (21.5)	450 (17.7)	92 (203)	57 (126)
80 (3)	381 (15.0)	305 (12.0)	635 (25.0)	450 (17.7)	98 (216)	68 (150)	470 (18.5)	305 (12.0)	630 (24.8)	600 (23.06)	133 (293)	75 (165)
100 (4)	457 (18.0)	356 (14.0)	690 (27.2)	600 (23.6)	140 (309)	80 (176)	546 (21.5)	406 (16.0)	685 (27.0)	750 (29.5)	175 (386)	100 (221)
125 (5)	559 (22.0)	432 (17.0)	875 (34.4)	600 (23.6)	222 (489)	124 (273)	673 (26.5)	483 (19.0)	1000 (39.4)	★	330 (728)	175 (386)
150 (6)	610 (24.0)	508 (20.0)	1065 (41.9)	★	270 (595)	187 (412)	705 (57.8)	559 (22.0)	1090 (42.9)	★	415 (915)	235 (518)
200 (8)	737 (29.0)	660 (26.0)	1325 (52.2)	★	495 (1091)	365 (805)	832 (32.8)	711 (28.0)	1495 (58.9)	★	780 (1720)	505 (1113)
250 (10)	838 (33.0)	787 (31.0)	1600 (63.0)	★	775 (1709)	570 (1257)	991 (39.0)	864 (34.0)	1600 (63.0)	★	1125 (2480)	760 (1676)
300 (12)	965 (38.0)	914 (36.0)	1680 (66.1)	★	1180 (2601)	735 (1620)	1130 (44.5)	991 (39.0)	1850 (72.8)	★	1485 (3274)	1135 (2502)
FE = Flanged End BWE = Butt Weld End												

Material	
Body & Bonnet	ASTM A216 Gr. WCB, A217 Gr. WC6! WC9 / C5 / C12, A351 Gr. CF8 / CF8M CF3 / CF3M
Wedge & Seat Ring	ASTM A216 Gr. WCB, A217 Gr. WC6, A351 Gr. CF8 / CF8M CF3 CF3M, Seat faces are stellite
Stem & Gland	ASTM A276 TYPE 410 / 304 / 316
Yoke Sleeve	Ni-Resist ASTM A439 Gr. D2
Gland Packing	Die Formed Graphite rings / Braided Graphite rings
Pressure Seal Ring	Expanded Graphite
Stud / Nut	ASTM A193 Gr. B7 / B16 / B8 / B8M / A194 Gr. 2H / 7 / 8 / 8M
Yoke & Hand Wheel	Carbon Steel. Alloy Steel
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating Silver Streak aluminium paint

1) Nett in Kg. (lbs) approx. (without obligation) for Flanged Ends. ★ Bevel Gear Actuators mandatory. ■ Butt Weld Ends to ASME B16.25. ■ End to End dim. for Class 2500 Butt Weld Ends as per manufacturer standard. ■ By-pass arrangement & Pressure Relief device available on request. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Valves can be supplied with Electric or Gear Actuators. ■ Ring Joint. Large or Small Tongue & Grooves Flanges are available on request

GLOBE VALVES

CLASS-150-300-600



Features :

Heavy duty OS & Y type, bolted bonnet, rising or non rising handwheel, renewable seating for Carbon Steel Valves, integral for Stainless Steel Valves. Valves with most advanced design features provide the ultimate in dependable, economic flow control.

DESIGN STD : BS 1873

TESTING STD: EN 12266-1, API 598

Test Pressure in bar (psi)			
Class	150	300	600
Hyd. Shell	30(435)	77 (1117)	155 (2248)
Seat / Black Seat	22 (319)	57 (827)	113 (1639)
Air Seat		6.9 (100)	

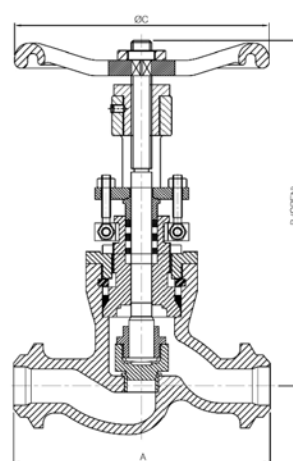
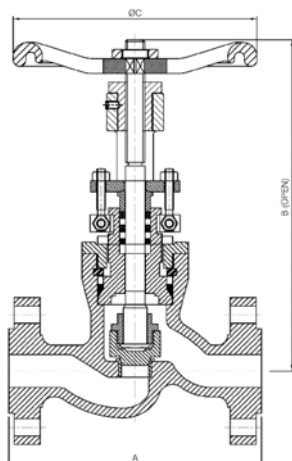
Dimensions are in mm (Inch)													
Size		Class - 150				Class - 300				Class - 600			
mm (inch)		A	B	ØC	Wt 1)	A	B	ØC	Wt 1)	A	B	ØC	Wt 1) FE BWE
50	203	300	200	14.5	267	300	200	17.2	292	380	250	37	27
(2)	(8.0)	(11.8)	(7.9)	(32)	(10.5)	(11.8)	(7.9)	(38)	(11.5)	(15.0)	(9.8)	(82)	(60)
65	216	310	200	32	292	340	250	45	330	347	300	55	46
(21/2)	(8.5)	(12.2)	(7.9)	(71)	(11.5)	(13.4)	(9.8)	(99)	(13.0)	(13.7)	(11.8)	(121)	(101)
80	241	355	250	35	318	370	300	54	356	425	450	70	57
(3)	(9.5)	(14.0)	(9.8)	(77)	(12.5)	(14.6)	(11.8)	(119)	(14.0)	(16.7)	(17.7)	(161)	(126)
100	292	375	300	56	356	425	450	77	432	490	600	125	100
(4)	(11.5)	(14.8)	(11.8)	(124)	(14.0)	(16.7)	(17.7)	(170)	(17.0)	(19.3)	(23.6)	(276)	(221)
125	356	415	300	82	400	480	450	108	508	945	★	215	172
(5)	(14.0)	(16.3)	(11.8)	(181)	(15.7)	(18.9)	(17.7)	(238)	(20.0)	(37.2)	★	(474)	(379)
150	406	455	450	102	444	605	600	144	559	980	★	282	225
(6)	(16.0)	(17.9)	(17.7)	(225)	(17.5)	(23.8)	(23.6)	(318)	(22.0)	(38.6)	★	(622)	(496)
200	495	815	600	150	559	1000	★	261	660	1220	★	490	406
(8)	(19.5)	(32.1)	(23.6)	(331)	(22.0)	(39.4)	★	(575)	(26.0)	(48.0)	★	(1080)	(895)
250	622	960	★	260	622	1235	★	486	787	1460	★	810	700
(10)	(24.5)	(37.8)	★	(573)	(24.5)	(48.6)	★	(1072)	(31.0)	(57.5)	★	(1786)	(1543)
300	698	1010	★	375	711	1320	★	662	838	1330	★	945	840
(12)	(27.5)	(39.8)	★	(827)	(28.0)	(52.0)	★	(1460)	(33.0)	(52.4)	★	(2083)	(1852)
350	787	1540	★	520	-	-	-	-	-	-	-	-	-
(14)	(31.0)	(60.6)	★	(1146)	-	-	-	-	-	-	-	-	-

Material	
Body & Bonnet	ASTM A216 Gr. WCB, A217 Gr. W06 /WC9/ C5 /C12, A352 Gr. LCB, A351 Sr. CF8/ CF8M CF3 CF3M
Wedge / Disc & Seat Ring	ASTM A217 Gr. Ca15 or WCB + 13% Cr. Facing, WEB + Stellite, A351 Sr. CH/ CF8M I CF3 I CF3M
Stem, Gland & Bonnet Bush	ASTM A276 TYPE 410 / 304/ 316
Yoke Sleeve	Ni-Resist ASTM A439 Sr. D2
Gland Packing	Die Formed Graphite rings/ Braided Graphite rings
Gasket	Spiral Wound 316/ 316L Graphite filled
Stud / Nut	ASTM A193 Gr. 67/ B16/ B8/ B8M /A194 Gr. 2F1/ 7/ 8/ 8M
Hand Wheel	Carbon Steel
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint

1) Nett in Kg. (lbs) approx. (without obligation) for Ranged Ends. ★ Bevel Gear Actuators mandatory. ■ Butt Weld Ends to ASME B16.25. ■ Stellite Seating & Wedge I Disc available on request. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Valves can be supplied with Electric or Gear Actuators. ■ Ring Joint, Large or Small Tongue & Groove Flanges are available on request. ■ Other Materials not mentioned above available on request.

PRESSURE SEAL GLOBE VALVES

CLASS-900-1500



Features :

Heavy duty OS & Y type, Pressure Seal Bonnet, rising or non rising handwheel, renewable seating. wall thickness as per ASME B16.34, Valves with most advanced design features provide the ultimate in dependable, economical flow control.

DESIGN STD : ASME B16.34

TESTING STD : API 598, ASME B16.34

Test Pressure in bar (psi)

Class	900	1500
Hyd. Shell	230(3335)	384(5568)
Seat / Black Seat	169(2451)	282(4089)
Air Seat		6.9(100)

Dimensions are in mm (Inch)

Size	Class - 900						Class - 1500					
mm (inch)	← A →		B	ØC	← Wt 1 →		← A →		B	ØC	← Wt 1 →	
	FE	BWE			FE	BWE	FE	BWE			FE	BWE
50 (2)	368 (14.5)	216 (8.5)	570 (22.4)	600 (23.6)	100 (221)	75 (165)	368 (14.5)	216 (8.5)	570 (22.4)	600 (23.6)	85 (187)	65 (14.3)
65 (21/2)	419 (16.5)	254 (10.0)	580 (22.8)	600 (23.6)	115 (254)	85 (187)	419 (16.5)	254 (10.0)	580 (22.8)	600 (23.6)	108 (238)	72 (159)
80 (3)	381 (15.0)	305 (12.0)	520 (20.3)	600 (23.6)	102 (225)	75 (165)	470 (18.5)	305 (12.0)	870 (34.3)	H	146 (322)	97 (214)
100 (4)	457 (18.0)	356 (14.0)	950 (37.4)	*	190 (419)	142 (313)	546 (21.5)	406 (16.0)	970 (38.2)	H	225 (496)	150 (331)
125 (5)	559 (22.0)	432 (17.0)	1010 (39.8)	*	255 (562)	148 (326)	673 (26.5)	483 (19.0)	1240 (48.8)	H	335 (739)	265 (584)
150 (6)	610 (24.0)	508 (20.0)	1215 (47.8)	*	390 (860)	275 (606)	705 (27.8)	559 (22.0)	1210 (47.6)	H	435 (959)	325 (717)
200 (8)	737 (29.0)	660 (26.0)	1375 (54.1)	*	680 (1499)	495 (1091)	832 (32.8)	711 (28.0)	1500 (59.1)	H	902 (1989)	575 (1268)
250 (10)	838 (33.0)	787 (31.0)	1570 (61.8)	*	990 (2183)	530 (1169)	991 (39.0)	864 (34.0)	1570 (61.8)	H	1035 (2282)	780 (1720)
300 (12)	965 (38.0)	914 (36.0)	2300 (90.6)	*	1370 (3020)	1035 (2282)	1130 (44.5)	991 (39.0)	1800 (70.9)	H	1750 (3858)	1340 (2954)

FE = Flanged End

BWE = Butt Weld End

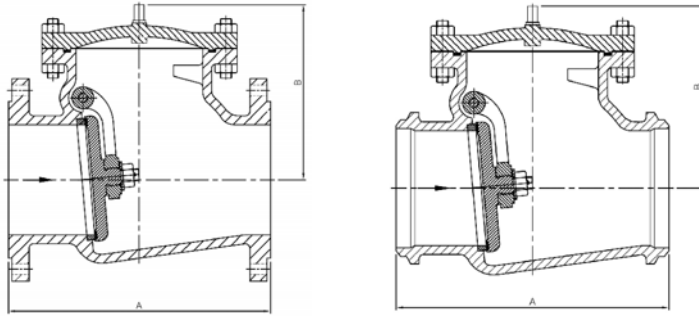
Material

Body & Bonnet	ASTM A216 Gr. WCB, A217 Gr. WC6! WC9 / C5 / C12, A351 Gr. CF8 / CF8M CF3 / CF3M
Wedge & Seat Ring	ASTM A216 Gr. WCB, A217 Gr. WC6, A351 Gr. CF8 / CF8M CF3 CF3M, Seat faces are stellited
Stem & Gland	ASTM A276 TYPE 410 / 304 / 316
Yoke Sleeve	Ni-Resist ASTM A439 Gr. D2
Gland Packing	Die Formed Graphite rings / Braided Graphite rings
Pressure Seal Ring	Expanded Graphite
Stud / Nut	ASTM A193 Gr. B7 / B16 / B8 / B8M / A194 Gr. 2H / 7 / 8 / 8M
Yoke & Hand Wheel	Carbon Steel. Alloy Steel
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating Silver Streak aluminium paint

1) Nett in Kg. (lbs) approx. (without obligation) ★ Bevel Gear Actuators mandatory. ■ Butt Weld Ends to ASME B16.25. ■ Class 900, 1500 & 2500 Valves are with Butt Weld Ends (Short pattern), Flanged Ends available on request. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Valves can be supplied with Electric or Gear Actuators. ■ Ring Joint, Large or Small Tongue & Groove Flanges are available on request. ■ Other Materials not mentioned above available on request.

BOLTED COVER SWING CHECK VALVES

CLASS-150-300-600



Features :

Heavy duty bolted cover/Pressure seal cover, with renewable seating for Carbon Steel & integral seating for stainless steel, Cover mounted / body mounted disc, Valves with most advanced design Features provide the ultimate in dependable, economical flow check.

DESIGN STD : BS 1868

TESTING STD: EN 12266-1, API 598

Test Pressure in bar (psi)			
Class	150	300	600
Hyd. Shell	30(435)	77 (1117)	155 (2248)
Seat	22 (319)	57 (827)	113 (1639)
Min. Seat	5.5 (80)	14 (203)	28 (406)

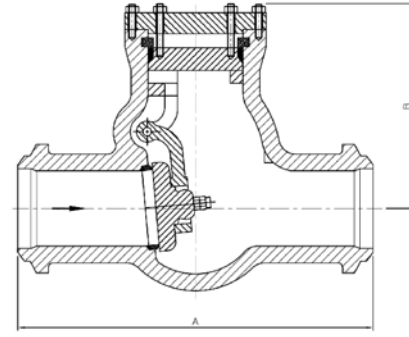
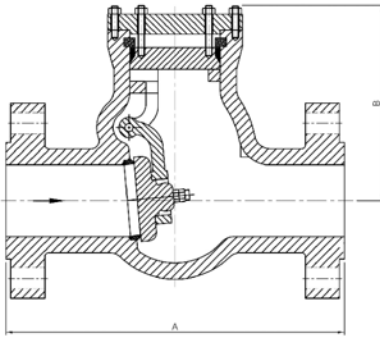
Dimensions are in mm (Inch)										
Size	Class - 150			Class - 300			Class - 600			
mm (inch)	A	B	Wt 1)	A	B	Wt 1)	A	B	Wt 1)	BWE
50	203	115	11.5	267	120	18	292	138	25	21
(2)	(8.0)	(4.5)	(25)	(10.5)	(4.7)	(40)	(11.5)	(5.4)	(55)	(46)
65	216	120	23	292	132	33	330	145	40	30
(21/2)	(8.5)	(4.7)	(51)	(11.5)	(5.2)	(73)	(13.0)	(5.7)	(88)	(66)
80	241	135	28	318	150	47	356	165	48	35
(3)	(9.5)	(5.3)	(62)	(12.5)	(5.9)	(104)	(14.0)	(6.5)	(106)	(77)
100	292	150	51	356	170	62	432	190	85	59
(4)	(11.5)	(5.9)	(112)	(14.0)	(6.7)	(137)	(17.0)	(7.5)	(187)	(130)
125	330	170	61	400	210	95	508	220	131	95
(5)	(13.0)	(6.7)	(135)	(15.7)	(8.3)	(209)	(20.0)	(8.7)	(289)	(209)
150	356	195	80	444	210	120	559	255	172	108
(6)	(14.0)	(7.7)	(176)	(17.5)	(8.3)	(265)	(22.0)	(10.0)	(379)	(238)
200	495	220	120	533	255	181	660	300	295	202
(8)	(19.5)	(8.7)	(265)	(21.0)	(10.0)	(399)	(26.0)	(11.8)	(650)	(445)
250	622	260	218	622	305	325	787	335	475	365
(10)	(24.5)	(10.2)	(481)	(24.5)	(12.0)	(717)	(31.0)	(13.2)	(1047)	(805)
300	698	310	228	711	350	405	838	395	580	555
(12)	(27.5)	(12.2)	(502)	(28.0)	(13.8)	(893)	(33.0)	(15.6)	(1279)	(1224)
350	787	365	342	838	390	522	889	440	755	605
(14)	(31.0)	(14.4)	(754)	(33.0)	(15.4)	(1151)	(1960)	(970)	(1665)	(1334)
400	864	565	465	864	530	695	-	-	-	-
(16)	(34.0)	(19.9)	(1025)	(34.0)	(20.9)	(1532)	-	-	-	-
450	978	585	565	978	590	1120	-	-	-	-
(18)	(38.5)	(22.2)	(1246)	(38.5)	(23.2)	(2469)	-	-	-	-
500	978	616	1005	1016	655	1320	-	-	-	-
(20)	(38.5)	(24.0)	(2216)	(40.0)	(25.8)	(2910)	-	-	-	-
600	1295	740	1455	1346	790	1865	-	-	-	-
(24)	(51.0)	(29.1)	(3208)	(53.0)	(31.1)	(4112)	-	-	-	-

Material	
Body / Cover/ Hinge / bracket	ASTM A216 Gr. WCB, A217 Gr. WC61 WC9 / CS! C12, A352 Gr. LCB,A351 Gr. CF81 CFBM I CF3/ CF3M
Disc / Seat Ring	ASTM A216 Gr. WCB, A351 Gr. CFB / CFBM CF3 CF3M
Gasket	Spiral Wound 316 / 316L Graphite filled
Stud /1 Nut	ASTM A1 93 Gr. B7 / B16 / BE / BEM / A1 94 Gr. 2H / 7 / B / EM
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint.

1) Nett in Kg. (lbs) approx. (without obligation) for Flanged Ends Class 150, 300 & 600. ■ Butt Weld Ends to ASME B 16.25. ■ Disc is mounted in oover for sizes 50 (2) to 300 (12) Class 150, 300 & 600 Valves and body mounted for remaining Sizes & Classes. ■ Seal faces of Disc & Seatriing of WCB material are 13% Chrome overlaid for Class 150, 300 & 600 Valves. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Valves can be supplied with Ring Joint, Large or Small Tongue & Groove. ■ Other Materials not mentioned above available on request.

PRESSURE SEAL SWING CHECK VALVES

CLASS-900-1500



Features :

Heavy duty bolted cover/Pressure seal cover, with renewable seating for Carbon Steel & integral seating for stainless steel, Cover mounted / body mounted disc, Valves with most advanced design Features provide the ultimate in dependable, economical flow check.

DESIGN STD : ASME B16.34

TESTING STD : API 598, ASME B16.34

Test Pressure in bar (psi)		
Class	900	1500
Hyd. Shell	230 (3335)	384(5568)
Seat	169 (2451)	282(4089)
Min. Seat	42 (609)	70.5(1022)

Dimensions are in mm (Inch)											
Size		Class - 900				Class - 1500					
mm (inch)		A	B	Wt 1)		A	B	Wt 1)			
	FE	BWE		FE	BWE	FE	BWE		FE	BWE	
50	368	216	186	50	32	368	216	180	50	32	
(2)	(14.5)	(8.5)	(7.1)	(110)	(71)	(14.5)	(8.5)	(7.1)	(110)	(71)	
65	419	254	195	65	40	419	254	195	65	40	
(2 1/2)	(16.5)	(10.0)	(7.7)	(143)	(88)	(16.5)	(10.0)	(7.7)	(143)	(88)	
80	381	305	235	75	52	470	305	235	90	52	
(3)	(15.0)	(12.0)	(9.3)	(165)	(115)	(18.5)	(12.0)	(9.3)	(198)	(115)	
100	457	356	270	102	67	546	406	265	132	83	
(4)	(18.0)	(14.0)	(10.6)	(225)	(148)	(21.5)	(16.0)	(10.4)	(291)	(183)	
125	559	432	310	195	110	673	483	310	245	105	
(5)	(22.0)	(17.0)	(12.2)	(430)	(243)	(26.5)	(19.0)	(12.2)	(540)	(232)	
150	610	508	325	215	140	705	559	325	345	135	
(6)	(24.0)	(20.0)	(12.8)	(474)	(308)	(27.8)	(22.0)	(12.8)	(761)	(298)	
200	737	660	450	336	288	832	711	450	368	318	
(8)	(29.0)	(26.0)	(17.7)	(741)	(635)	(32.8)	(28.0)	(17.7)	(811)	(701)	
250	838	787	525	467	394	991	864	525	465	388	
(10)	(33.0)	(31.0)	(20.7)	(1030)	(869)	(39.0)	(34.0)	(20.7)	(1025)	(1325)	
300	965	914	625	600	535	1130	991	625	835	850	
(12)	(38.0)	(36.0)	(24.6)	(1323)	(1179)	(44.5)	(39.0)	(24.6)	(1841)	(1874)	

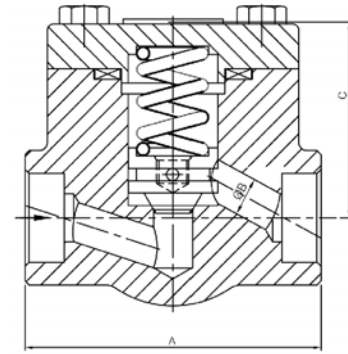
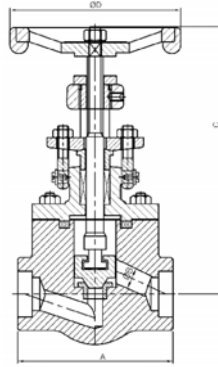
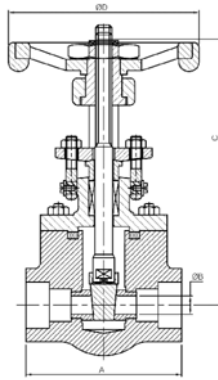
Material

Body / Cover / Hinge bracket	ASTM A216 Gr. WCB, A217 Gr. WC6 /WC9 / C5 / C12, A352 Gr. LCB, A351 Gr. CF8 CF8M / CF3 CF3M
Disc / Seat Ring	ASTM A216 Gr. WCB, A351 Gr. C15 / CF8M / CF3 / CF3M
Pressure Seal Ring	Expanded Graphite (Applicable for Pressure Seal. Check Valves.)
Stud / Nut	ASTM A193 Gr. B7 B16 / B8 / BaM / A194 Gr. 2H / 7/ 8/ BM
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint.

1) Nett in Kg. (lbs) approx. (without obligation) for Bull Weld Ends Class 900, 1500 & 2500 (Short Pattern) ■ Butt Weld Ends to ASME B 16.25. • Class 900, 1500 & 2500 Flanged Ends valves available on request, Face to Face Dimensions equal to Globe Valves. ■ Disc is body mounted for sizes 50 (2) to 300 (12) Class 900, 1500 & 2500 Valves. ■ Stellite Seat faces for Class 900, 1500 & 2500 Valves. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Valves can be supplied with Ring Joint, Large or Small Tongue & Groove. ■ Other Materials not mentioned above available on request.

FORGED STEEL GATE, GLOBE & CHECK VALVES

CLASS-800



Features :

Heavy duty, compact OS & Y type, bolted bonnet/ cover, rising stem, with renewable seating Valves; Piston Lift Check Valves with spring loaded disc; resulting with most advanced design Features provide the ultimate in dependable, economical flow control.

SE = SCREWED ENDS TO NPT(F) OR BSP(F) OR BSPT(F)

SWE = SOCKET WELD ENDS TO ASME B16.11

BWE = BUTT WELD ENDS TO ASME B16.25

DESIGN STD : API602 / BS EN ISO 15761,
TESTING STD: EN 12266-1,API 598

Test Pressure in bar (psi)	
Class	800
Hyd. Shell	207 (3002)
Seat / Back Seat	152 (2205)
Air Seat	7 (102)

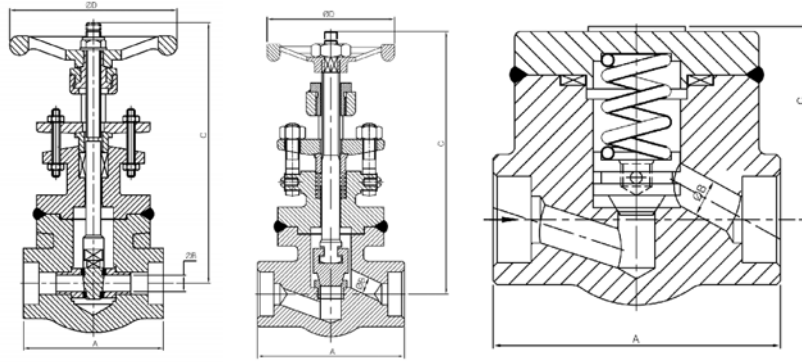
Dimensions are in mm (Inch)																
Size Class - 800																
mm (inch)	A		ØC		GATE		GLOBE C (Open)		CHECK		GATE		GLOBE Wt 1		CHECK	
	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB
8 (1/4)	73 (2.9)	73 (2.9)	6 (0.24)	6 (0.24)	116 (4.6)	116 (4.6)	125 (4.9)	125 (4.9)	54 (2.1)	54 (2.1)	2.3 (5.1)	2.3 (5.1)	2.4 (5.3)	2.4 (5.3)	1.5 (3.3)	1.5 (3.3)
10 (3/8)	73 (2.9)	73 (2.9)	9 (0.35)	6 (0.24)	116 (4.6)	116 (4.6)	125 (4.9)	125 (4.9)	54 (2.1)	54 (2.1)	2.3 (5.1)	2.3 (5.1)	2.3 (5.1)	2.4 (5.3)	1.5 (3.3)	1.5 (3.3)
15 (1/2)	82 (3.2)	73 (2.9)	12 (0.47)	9 (0.35)	132 (5.2)	116 (4.6)	142 (5.6)	125 (4.95)	65 (2.6)	54 (2.1)	2.5 (5.5)	2.2 (4.9)	2.7 (6.0)	2.3 (5.1)	2.0 (4.4)	1.5 (3.3)
20 (4)	106 (4.2)	82 (3.2)	17 (0.67)	12 (0.47)	154 (6.1)	132 (5.2)	163 (6.4)	142 (5.6)	73 (2.9)	65 (2.6)	3.3 (7.3)	2.5 (5.5)	3.5 (7.7)	2.7 (6.0)	2.5 (5.5)	2.0 (4.4)
25 (1)	140 (5.5)	106 (4.2)	22 (0.87)	17 (0.67)	200 (7.9)	154 (6.1)	210 (8.3)	163 (6.4)	102 (4.0)	73 (2.9)	7.4 (16.3)	3.3 (7.3)	8.0 (17.6)	3.5 (7.7)	6.1 (13.4)	2.5 (5.5)
40 (1 1/2)	148 (5.8)	140 (5.5)	35 (1.38)	28 (1.10)	234 (9.2)	200 (7.9)	255 (10.0)	210 (8.3)	125 (4.9)	102 (4.0)	9.5 (20.9)	7.6 (16.8)	10.0 (22.0)	8.0 (17.6)	8.5 (18.7)	6.1 (13.4)
50 (2)	- (5.8)	148 (5.8)	- (1.42)	36 (1.42)	- (9.2)	234 (9.2)	- (10.1)	257 (10.1)	- (4.9)	125 (4.9)	- (20.9)	9.5 (20.9)	- (22.0)	10.0 (22.0)	- (18.7)	8.5 (18.7)

Material	
Body, Bonnet, Gland flange & Cover	ASTM A105 / ASTM A182 Gr. F11, F22, F5, F9, F304 & F316
Wedge / Plug	ASTM A217 Gr. CA1 5 / ASTM A351 Cr. CF8 / CF8M
Disc/ Seat Ring / Stem & Gland	ASTM A276 TYPE 410 / 304 / 316
Yoke Sleeve	S.G. Iron EN 1 563 No.EN-JS 1 050 / Ni - Resist ASTM A439 Cr. D2
Packing	Braided Graphite rings
Gasket	Spiral Wound 316/ 316L Graphite filled
Spring	ASTM A312 TYPE 316
Stud / Nut	ASTM A193 Gr.B7/B16 /B8 /B8M/A194 Cr. 2H/ 7/8/ 8M
Hand Wheel	Malleable Iron
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint.

1) Net in Kg. (lbs) approx. (without obligation) ■ For Class 800, Gland Bolting shall be either Eye Bolt or Stud Bolting Design, dimension OD refer sales drawings. ■ Welded Flanged ends Valves available on request. ■ Stellite Seating & Wedge / Plug / Disc & Seal Welded Bonnet available on request. • When Stellite, Body Seat is Integral as standard for Globe & Lift Check Valves. ■ In case of Weld on Flanges for Class 800, Face to Face dimensions shall be as per ASME B 16.10 - Class 300 for Class 150 & Class 300. For Class 600 as per ASME B16.10 - Class 600. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Other Materials not mentioned above available on request.

FORGED STEEL GATE, GLOBE & CHECK VALVES

CLASS 1500-2500



SE = SCREWED ENDS TO NPT(F) OR BSP(F) OR BSPT(F)
SWE = SOCKET WELD ENDS TO ASME B16.11
BWE = BUTT WELD ENDS TO ASME B16.25

Features :

Heavy duty, compact OS & Y type, welded bonnet/ cover, rising stem, with renewable seating Valves; Piston Lift Check Valves with spring loaded disc; resulting with most advanced design Features provide the ultimate in dependable, economical flow control.

DESIGN STD : API602 / BS EN ISO 15761,
TESTING STD: EN 12266-1,API 598

Test Pressure in bar (psi)		
Class	1500	2500
Hyd. Shell	389 (5642)	647 (9384)
Seat / Back Seat	285(4134)	475 (6889)
Air Seat	7 (102)	

Dimensions are in mm (Inch)										Class - 1500				FB = Full Bore RB = Reduced Bore					
Size																			
mm (inch)	A		GATE		GLOBE & CHECK		GATE		GLOBE		CHECK		ØD	GATE		GLOBE		CHECK	
	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB	FB	RB		FB	RB	FB	RB	FB	RB
15 (1/2)	92 (3.6)	88 (3.5)	12 (0.5)	9 (0.3)	9 (0.3)	8 (0.3)	176 (6.9)	173 (6.8)	192 (7.6)	178 (7.0)	68 (2.7)	54 (2.1)	110 (4.3)	3.3 (7.3)	2.3 (5.0)	3.5 (7.7)	24 (5.3)	24 (5.3)	1.6 (3.5)
20 (3/4)	108 (4.3)	92 (3.6)	15 (0.6)	12 (0.5)	14 (0.6)	9 (0.3)	207 (8.1)	180 (7.1)	226 (8.9)	190 (7.5)	72 (2.8)	68 (2.7)	110 (4.3)	4.0 (8.8)	3.3 (7.3)	4.2 (9.3)	3.4 (7.5)	3.0 (6.6)	2.4 (5.3)
25 (1)	128 (5.0)	106 (4.2)	22 (0.9)	15 (0.6)	19 (0.7)	14 (0.6)	234 (9.2)	216 (8.5)	254 (10.0)	222 (8.7)	102 (4.0)	72 (2.8)	170 (6.7)	9.8 (21.6)	4.0 (8.8)	10.3 (22.7)	4.2 (9.3)	6.8 (15.0)	2.9 (6.4)
40 (1 1/2)	140 (5.5)	128 (5.0)	34 (1.3)	27 (1.1)	26 (1.0)	25 (1.0)	277 (10.9)	249 (9.8)	296 (11.7)	250 (9.8)	112 (4.4)	102 (4.0)	170 (6.7)	13.6 (30.0)	12.0 (26.5)	14.3 (31.5)	13.5 (29.8)	9.6 (21.1)	9.0 (19.8)
50 (2)	-	140 (5.5)	-	34 (1.3)	-	27 (1.1)	-	292 (11.5)	-	296 (11.6)	-	112 (4.4)	200 (7.9)	-	13.6 (30.0)	-	14.2 (31.3)	-	9.6 (21.2)

Size			Class - 2500						
mm (inch)	A	ØB	GATE	GLOBE	CHECK	ØD	GATE	GLOBE	CHECK
			←	C (Open)	→		←	Wt 1	→
15 (1/2)	106 (4.2)	11 (0.4)	216 (8.5)	217 (8.5)	72 (2.8)	200 (7.9)	4.0 (8.8)	4.2 (9.2)	2.9 (6.4)
20 (3/4)	128 (5.0)	14 (0.6)	225 (8.9)	242 (9.5)	102 (4.0)	200 (7.9)	9.8 (21.6)	10.3 (22.7)	6.7 (14.8)
25 (1)	140 (5.5)	19 (0.7)	269 (10.6)	281 (11.1)	112 (4.4)	200 (7.9)	13.6 (30.0)	14.2 (31.3)	9.6 (21.2)

Material	
Body, Bonnet, Gland flange & Cover	ASTM A105 / ASTM A182 Gr. Fit F22, F5, F9, F304 & F316
Wedge / Plug	ASTM A217 Sr. CA15 / ASTM A351 Gr. CF8 CF8M
Disc / Seat Ring / Stem & Gland	ASTM A276 TYPE 410 / 304 / 316
Yoke Sleeve	S.C. Iron EN 1563 No.EN-JS 1050/ Ni - Resist ASTM A439 Gr. D2
Packing	Braided Graphite rings
Spring	ASTM A312 TYPE 316
Hand Wheel	Malleable Iron
Surface Protection for Carbon Steel Valves	Prime Coat : Chlorine free with modified alkyd resin unobjectionable in physiological and toxicological respects. Additional external coating : Silver Streak aluminium paint.

1) Nett in Kg. (lbs) approx. (without obligation) ■ Welded Flanged ends Valves available on request. ■ Stellite Seating & Wedge / Plug Disc & Seal Welded Bonnet as standard. ■ When Stellite, Body Seat is Integral for Globe & Lift Check Valves. ■ Class 2500 V-Pattern Globe & Lift Check Valves, Straight Pattern Gate Valves are also available on request. ■ In case of Welded Flanges for Class 1500, Face to Face dimensions shall be as per ASME B16.10 - Class 1500. ■ Please Specify Working pressure, Temperature & Service conditions. ■ Other Materials not mentioned above available on request.

TECHNICAL DATA

TORQUE VALUES IN Nm (11 lbs.) 100% ΔP

Size		GATE Class				GLOBE Class				
mm (inch)	150	300	600	900	1500	150	300	600	900	1500
15	2	5	-	-	-	2	6	-	-	-
(1/2)	(1.5)	(3.7)	-	-	-	(1.5)	(4.4)	-	-	-
20	3	6	-	-	-	3	8	-	-	-
(3/4)	(2.2)	(4.4)	-	-	-	(2.2)	(5.9)	-	-	-
25	4	10	-	-	-	5	15	-	-	-
(1)	(3.0)	(7.4)	-	-	-	(3.7)	(11.1)	-	-	-
40	7	17	-	-	-	8	22	-	-	-
(1 1/2)	(5.2)	(12.5)	-	-	-	(5.9)	(16.2)	-	-	-
50	8	20	23	54	90	9	24	57	127	212
(2)	(5.9)	(14.8)	(17.0)	(39.9)	(66.4)	(6.6)	(17.7)	(42.1)	(93.7)	(156.5)
65	9	22	33	77	128	13	41	92	181	302
(2 1/2)	(6.6)	(16.2)	(24.4)	(56.8)	(94.5)	(9.6)	(30.3)	(67.9)	(133.6)	(222.9)
80	13	35	48	116	188	20	61	136	314	495
(3)	(9.6)	(25.8)	(35.4)	(85.6)	(138.7)	(14.8)	(45.0)	(100.4)	(231.7)	(365.3)
100	20	60	73	169	269	42	111	287	525	795
(4)	(14.8)	(44.3)	(53.9)	(124.7)	(169.5)	(31.0)	(81.9)	(211.8)	(387.5)	(586.7)
125	28	92	95	287	449	62	193	532	825	1197
(5)	(20.7)	(68.0)	(70.1)	(211.8)	(331.4)	(45.8)	(142.4)	(392.6)	(608.9)	(883.4)
150	40	104	219	427	671	101	292	810	1455	1840
(6)	(29.5)	(76.8)	(161.6)	(315.1)	(495.2)	(74.5)	(215.5)	(597.8)	(1073.8)	(1357.9)
200	41	115	337	825	1299	191	616	1431	2828	5829
(8)	(30.3)	(84.9)	(248.7)	(608.9)	(958.7)	(141.0)	(454.6)	(1056.1)	(2087.1)	(4301.8)
250	66	186	586	1034	1728	334	1043	2454	3729	11674
(10)	(48.7)	(137.3)	(432.5)	(763.1)	(1275.3)	(246.5)	(769.7)	(1811.1)	(2752.0)	(8615.4)
300	92	349	915	1598	3091	509	1578	4014	8770	16382
(12)	(67.9)	(257.6)	(675.3)	(1179.3)	(2281.2)	(375.6)	(1164.6)	(2962.3)	(6472.3)	(12089.9)
350	130	452	-	-	-	618	-	-	-	-
(14)	(95.9)	(333.6)	-	-	-	(456.1)	-	-	-	-
400	171	672	-	-	-	-	-	-	-	-
(16)	(126.2)	(495.9)	-	-	-	-	-	-	-	-
450	239	800	-	-	-	-	-	-	-	-
(18)	(176.4)	(590.4)	-	-	-	-	-	-	-	-
500	315	1151	-	-	-	-	-	-	-	-
(20)	(232.5)	(849.4)	-	-	-	-	-	-	-	-
600	512	1822	-	-	-	-	-	-	-	-
(24)	(377.9)	(1344.6)	-	-	-	-	-	-	-	-
650	645	2005	-	-	-	-	-	-	-	-
(26)	(476.0)	(1479.7)	-	-	-	-	-	-	-	-
700	820	2465	-	-	-	-	-	-	-	-
(28)	(605.2)	(1819.2)	-	-	-	-	-	-	-	-
750	935	3370	-	-	-	-	-	-	-	-
(30)	(690.0)	(2487.1)	-	-	-	-	-	-	-	-
800	1150	4080	-	-	-	-	-	-	-	-
(32)	(848.7)	(3011.0)	-	-	-	-	-	-	-	-
900	1365	4729	-	-	-	-	-	-	-	-
(36)	(1007.4)	(3490.0)	-	-	-	-	-	-	-	-
1000	4800	-	-	-	-	-	-	-	-	-
(40)	(3540.3)	-	-	-	-	-	-	-	-	-

TORQUE VALUES ARE WITHOUT FACTOR OF SAFETY



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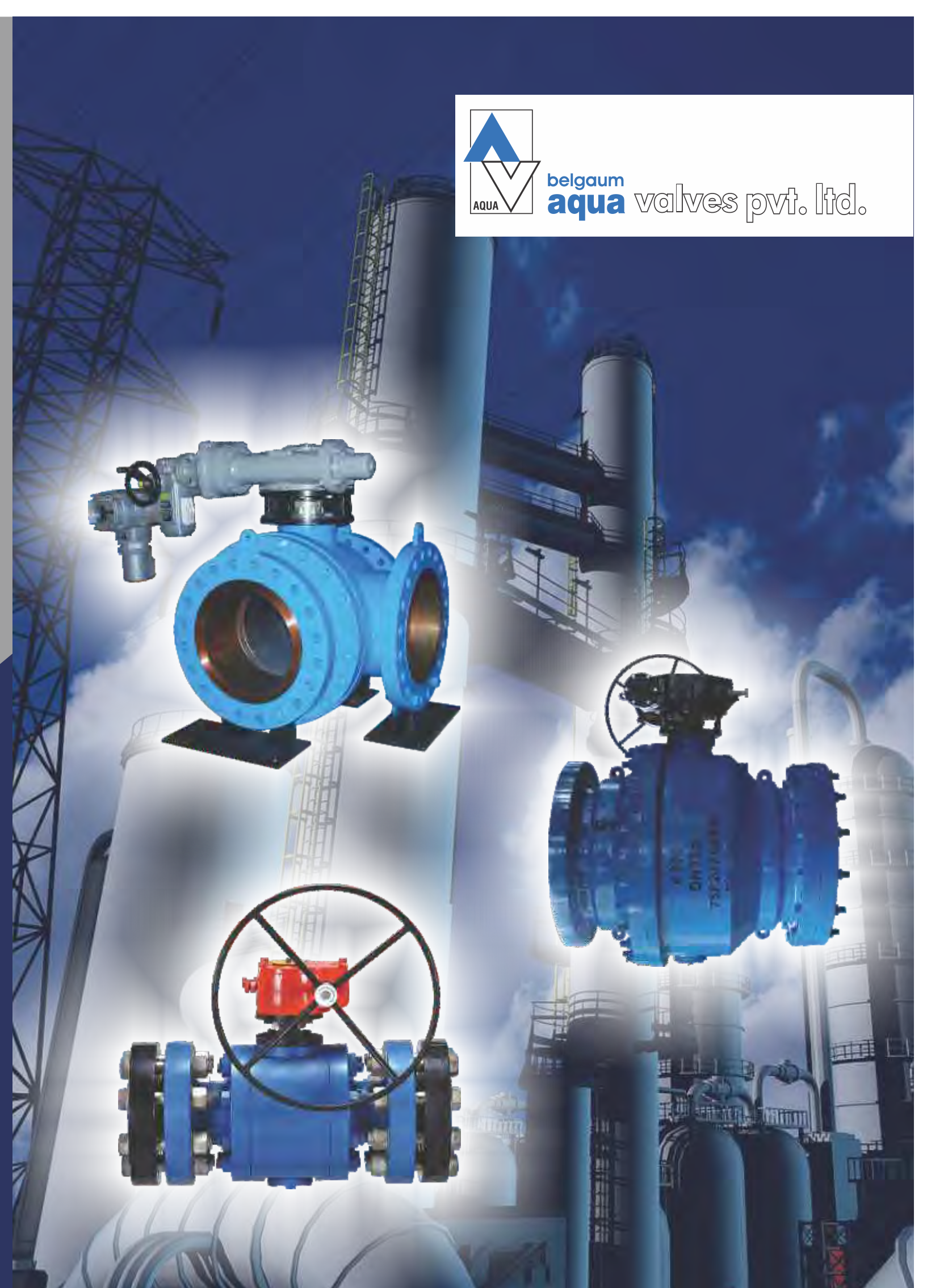


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Ball Valve Series 71R3 / 71F3

Class 600/800, Regular/Full Port, Screwed, Socket, Butt Weld Floating Design



3-PIECE BALL VALVE / 2-WAY

- ✦ 3-Piece swing-Out Design, Easy inline maintenance.
- ✦ ISO 5211 mounting Pad.
- ✦ Maintenance free live loaded double sealing stem packing ensures high cycle life and positive sealing.
- ✦ Blow-Out Proof Design

The 3-piece design is available for various schedule pipes. This type of construction is of swing-out design and easy inline maintenance. By removing body bolts & nuts the complete valve may be lifted out of the line or swing-out by keeping one bolt. The valve can easily swing out of the line providing complete entry and fast disassembly or maintenance. The swing away feature also maintain pipe alignment during inline maintenance. The 3-piece design offers the function of both valve as well as a union. It can be used in screw pipe ends, socket weld pipe ends, butt weld ends, extended butt weld pipe ends. These ball valves can be easily used for automation by using pneumatic and electric actuators.

Conformity to codes & standards :

General design and manufacturing : BS EN ISO - 17292/API-608/API-6D
Valve face to face dimensions : Manufacturers standard
Valve inspection & testing : EN 12266-1

: Hydro Shell : 211kg/sq.cm
: Seat test : 69kg/sq.cm
: Air seat : 7kg/sq.cm
Special feature : Metal to Metal Seat

Technical Specifications :

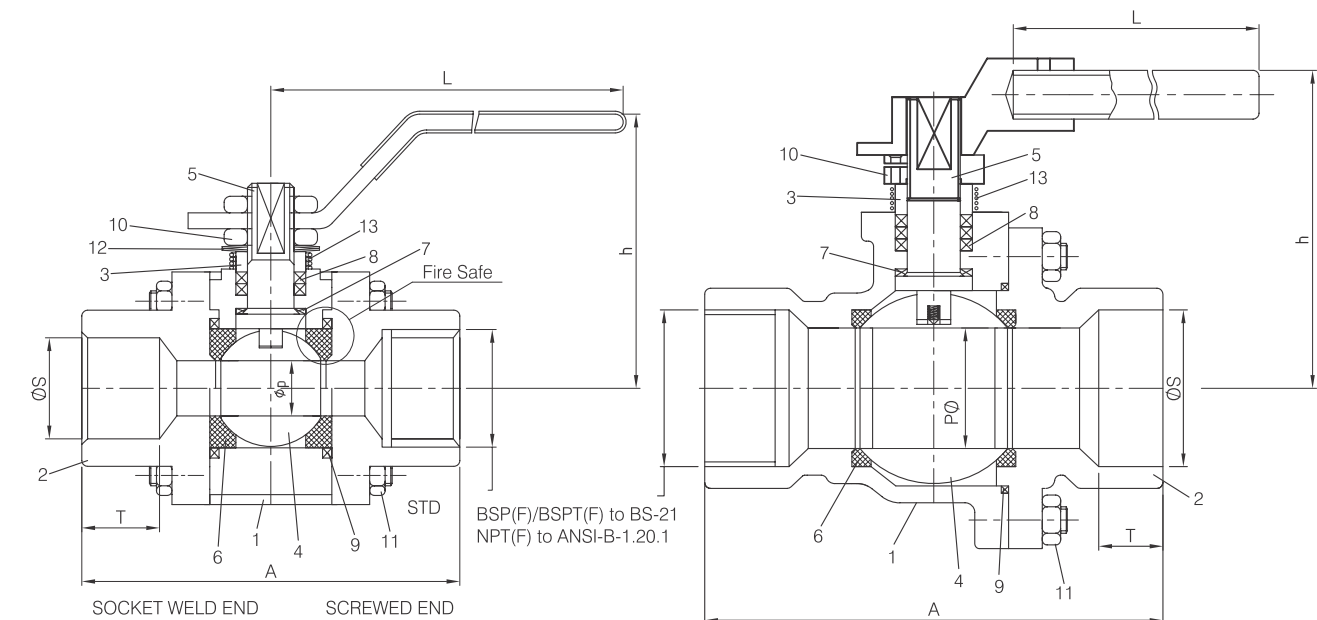
Valve type : Floating design ball valve
Body type : 3 pc
Seat type : Soft / Metal
End connection : Screwed, socket & butt weld ends. / Nipple Extn.
Size range : 15NB to 50NB
Pressure rating : Class 800
Seat leakage : Class VI - soft seat, Class V-Metal seat
Operation : Hand lever / Gear / Actuator (Electrical / Pneumatic)



2-PIECE BALL VALVE

Ball Valve Series 71R3 / 71F3

Class 600/800, Regular/Full Port, Screwed, Socket, Butt Weld Floating Design



Size	Dimensional Data in mm.				
	A	ØP		ØS	T
15	65	9.5	13	21.8	10
20	75	13	19	27.4	13
25	88	19	25	34.1	13
32	105	25	32	42.7	13
40	115	32	38	49	13
50	125	38	50	61	13

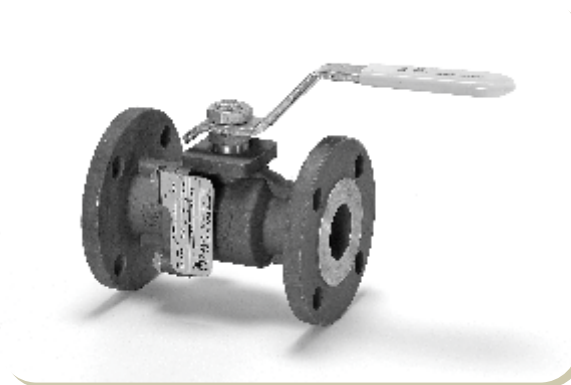
Standard Material of Construction :

- | | |
|--|---|
| 1. Body : A105, WCB, CF8, CF8M, CF3, CF3M, F304, F316, CN7M | 6. Seat : PTFE, GFT, CFT / Metal to Metal / Delrin, Nylon/PEEK. |
| 2. Pipe End : A105, WCB, CF8, CF8M, Cf3 CF3M, F304, F316, CN7M | 7. Stem Seal : GFT |
| 3. Gland : SS410, 304, 316, 316L MONEL, ALLOY20, HAST-B, C. | 8. Gland Packing : PTFE, Grafoil. |
| 4. Ball : SS410, 304, 316, 316L, MONEL, ALLOY20, HAST-B, C. | 9. Body Seal : PTFE, Grafoil. |
| 5. Stem : SS410, 304, 316, 316L MONEL, ALLOY20, HAST-B, C. | 10. Gland Nut : Carbon Steel. |
| | 11. Body Stud/Nut : B7/2H, B8/B8M |
| | 12. Belleville Spring : Spring Steel. |
| | 13. Antistatic Spring : SS 304 |

Valves above 50mm size will be offered in 2-Piece Design on request, solid ball on request.
All sizes of Ball Valves can also be provided with Gear, Actuator (Electric / Pneumatic).
For Cast Valves, Pressure rating will be class 600 / 300.
For Forged Valves, Pressure rating will be class 800.

Ball Valve Series 74R2 / 74F2

Class 150, Regular/Full Port, Flanged Ends, Floating Design



2/3-PIECE BALL VALVES / 2-WAY

- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ Blow-Out Proof Stem.
- ✦ ISO5211 Mounting Pad Allows for mounting of actuator.

These are high performance ball valves in Class 150 – 2 pc construction. With the floating seal design, the ball diameter is greatest in the close position and the seat is free to expand on closing and contract on opening. This continuous ball to seat contact ensures proper adjustment and continual sealing. Since the seat is allowed to float in open position, fluids and debris do not accumulate around and behind the seat. This results in self-cleaning action, reduced wear and smoother operation. These valves are with built in antistatic features & double seal design and can be offered in soft Seated as well as metal Seated design.

Conformity to codes & standards:

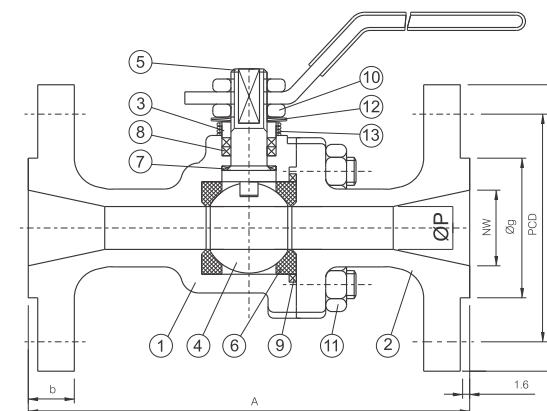
General design & manufacturing.	: BS EN ISO -17292/API-608/API-6D
Valve dimensions.	: ASME B 16.10 / B 16.5.
Valve inspection & testing.	: EN 12266-1
	Hydro shell : 31 kg/sq.cm
	Seat test : 23 kg/sq.cm
	Air seat : 7 kg/sq.cm
Special features	: Fire safe to API-607/6FA Metal to Metal Seat

Technical specification:

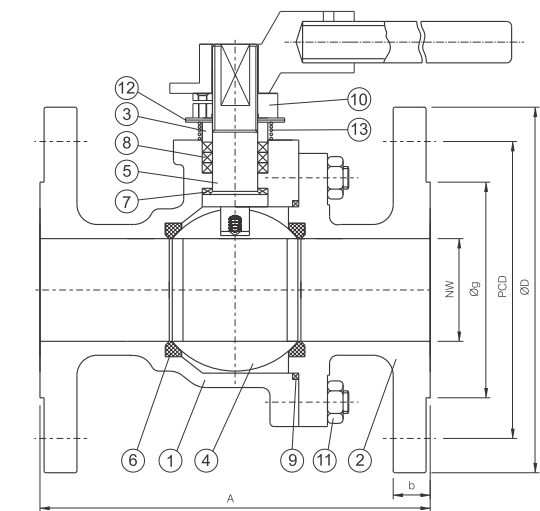
Valve type	: Floating design ball valve
Body type	: 2 pc / 3 pc
Seat type	: Soft / Metal.
End connection	: Flanged.
Size range	: 15NB to 300NB
Pressure rating	: Class 150.
Seat leakage	: Class VI-soft seat, Class V-Metal seat.
Operation	: Hand lever/Gear/Actuator(Electrical/Pneumatic)

Ball Valve Series 74R2 / 74F2

Class 150, Regular/Full Port, Flanged Ends, Floating Design

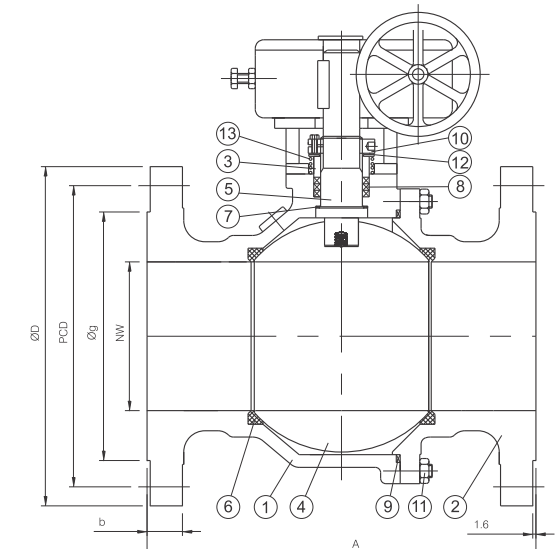


REDUCED PORT



FULL PORT

Size	A	NW	ØP	ØD	b	Øg	PCD	HoleØ	No.of Holes
15	108	13	9.5	89	11.5	35	60.5	16	4
20	117	19	13	98	13	43	70	16	4
25	127	25	19	108	11.5	51	79.5	16	4
32	140	32	25	117	13	64	89	16	4
40	165	38	32	127	14.5	73	98.5	16	4
50	178	50	38	152	16	92	120.6	20	4
65	190	65	50	178	17.5	105	139.7	20	4
80	203	76	58	191	19.5	127	152.4	20	4
100	229	98	76	229	24	157	190.5	20	8
150	267	148	98	279	25.5	216	241.3	23	8
200*	292	198	144	343	29	270	298.4	23	8
250*	330	248	187	406	30.5	324	362	26	12
300*	610	303	228	483	32	381	431.8	26	12



FULL PORT-GEAR OPERATED

Standard Material of Construction :

1. Body	: WCB,CF8,CF8M,CF3,CF3M,CN7M.
2. Side Piece	: WCB,CF8,CF8M,CF3,CF3M,CN7M.
3. Gland	: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
4. Ball	: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
5. Stem	: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
6. Seat	: PTFE,GFT,CFT/Metal to Metal/Delrin, Nylon.
7. Stem seal	: GFT.
8. Gland Packing	: PTFE, Grafoil.
9. Body seal	: PTFE, Grafoil.
10. Gland nut	: Carbon steel.
11. Body stud/nut	: B7/2H, B8/B8M.
12. Belleville spring	: Spring steel.
13. Antistatic spring	: SS 304.

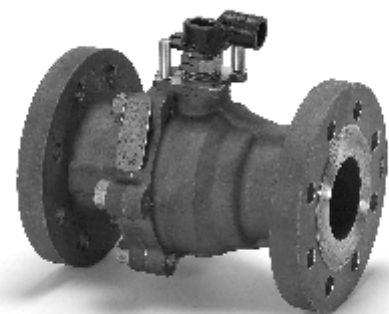
*NOTE : Valves up to 50mm with lever.

Ball valves can also be provided with Gear, Actuator (Electrical / Pneumatic).

Other material available on request

Ball Valve Series 75R2 / 75F2

Class 300, Regular/Full Port, Flanged Ends, Floating Design



2-PIECE BALL VALVES / 2-WAY.

- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ ISO 5211 Mounting Pad Allows for mounting of actuator
- ✦ Blow-Out Proof Stem.

These High performance floating design Ball Valves have the following advantages:

Superior sealing : Seat to ball sealing is further improved by allowing both the ball and seat to move. This provides a leak tight seal even at low pressures. The floating ball increases compression against the seat as system pressure increases.

Self Cleaning : The floating design allows entrapped fluid to be continually drain from the valve cavity. The internal washing action keeps the seats free of contaminated ingredients and guarantees superior valve performance.

Self adjusting : The seat and ball interface allows the seat to expand and contract in order to maintain proper ball contact at all times thus resulting in self adjustment.

Smooth operation & reduced wear : There is reduced friction on the seat when it comes in contact with the ball during opening and closing and thus enhances the valve life.

Conformity to codes & standards:

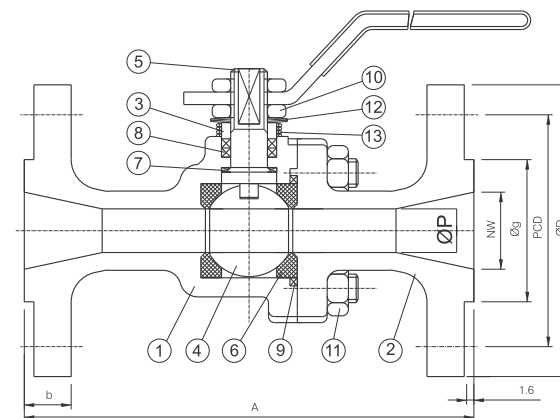
General design & manufacturing.	: BS EN ISO -17292/API-608/API-6D
Valve dimensions.	: ASME B 16.10 / B 16.5.
Valve inspection & testing.	: EN 12266-1
	Hydro shell : 77 kg/sq.cm
	Seat test : 51 kg/sq.cm
	Air seat : 7 kg/sq.cm
Special features	: Fire safe to API-607 Metal to Metal Seat

Technical specification:

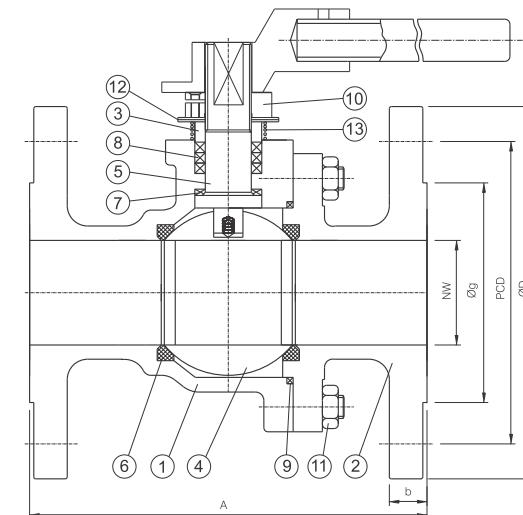
Valve type	: Floating design ball valve
Body type	: 2 pc
Seat type	: Soft / Metal.
End connection	: Flanged.
Size range	: 15 NB to 300 NB for reduced port/full port.
Pressure rating	: Class 300
Seat leakage	: Class VI-soft seat, Class V-Metal seat.
Operation	: Hand lever/Gear/Actuator(Electrical/Pneumatic)

Ball Valve Series 75R2 / 75F2

Class 300, Regular/Full Port, Flanged Ends, Floating Design



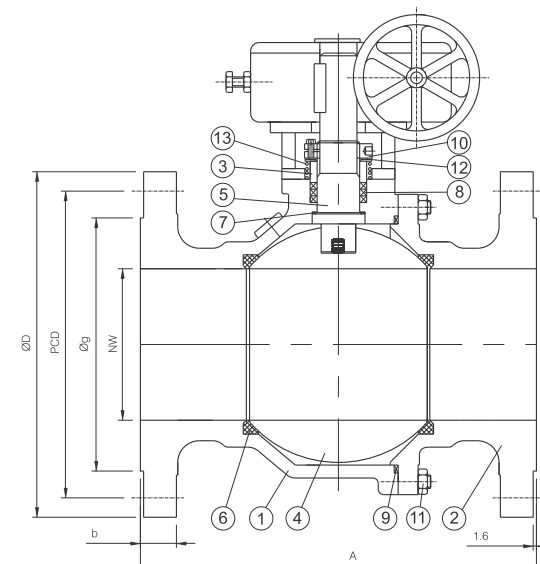
REDUCED PORT



FULL PORT

Dimensional Data In mm

Size	A	NW	ØP	ØD	b	Øg	PCD	HoleØ	No.of Holes
15	140	13	9.5	95	14.5	35	66.7	16	4
20	152	19	13	117	16	43	82.5	20	4
25	165	25	19	124	17.5	51	89	20	4
32	178	32	25	133	19.5	64	98.4	20	4
40	190	38	32	156	22	73	114.3	23	4
50	216	50	38	165	22.5	92	127	20	8
65	241	65	50	191	25.5	105	149.2	23	8
80	283	76	58	210	29	127	168.3	23	8
100	305	98	76	254	32	157	200	23	8
150	403	148	98	318	37	216	269.9	23	12
200*	419	198	144	381	41.5	270	330.2	26	12
250*	457	248	187	445	48	324	387.3	29	16
300*	502	303	228	520	51	381	450.8	32	16



FULL PORT-GEAR OPERATED

Standard material of construction:

1. Body	: WCB,CF8,CF8M,CF3,CF3M,CN7M.
2. Side Piece	: WCB,CF8,CF8M,CF3,CF3M,CN7M.
3. Gland	: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
4. Ball	: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
5. Stem	: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
6. Seat	: PTFE,GFT,CFT/Metal to Metal/Delrin, Nylon.
7. Stem seal	: GFT.
8. Gland Packing	: PTFE, Grafoil.
9. Body seal	: PTFE, Grafoil.
10. Gland nut	: Carbon steel.
11. Body stud/nut	: B7/2H, B8/B8M.
12. Belleville spring	: Spring steel.
13. Antistatic spring	: SS 304.

*NOTE : Valves up to 50mm with lever.

Ball valves can also be provided with Gear, Actuator (Electrical / Pneumatic).

Other material available on request

Ball Valve Series 74R2T / 74F2T / 75R2T / 75F2T

Class 150/300, Regular/Full Port, Flanged Ends, Trunnion Mounted Design



2/3-PIECE 2-WAY – TRUNNION MOUNTED BALL VALVES.

- ✦ Spring Loaded Seat Design
- ✦ ISO 5211 Mounting Pad Allows for mounting of actuator
- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ Blow-Out Proof Stem.

The trunnion design high performance ball valves use the upper and lower supports to retain the ball under pressure. It allows the valve to be installed in either direction. This valve can be used in applications with reversing flow. Another feature of trunnion design is that it allows the ball valve to act as a true union. This allows down stream piping to be disconnected under full upstream pressure (provided the downstream piping is drained of liquid and that the valve is indeed closed and secured to upstream piping). The trunion on a two way ball valve supports the ball in much the same way as the stem does on top.

Conformity to codes & standards:

General design & manufacturing. : BS EN ISO-17292/API-608/API-6D
Valve dimensions. : ASME B 16.10 /B 16.5.
Valve inspection & testing. : EN 12266-1

Special features : #ASA150 : #ASA300
Hydro shell : 31 kg/sq.cm : 77 kg/sq.cm
Seat test : 23 kg/sq.cm : 51 kg/sq.cm
Air seat : 7 kg/sq.cm : 7 kg/sq.cm
: Fire safe to API-607
Metal to Metal Seat
Block and Bleed.
Sealant Injection

Technical specification:
Valve type : Trunnion Mounted ball valve
Body type : 2 pc standard / 3 pc optional.
Seat type : Spring Loaded Seat design in Soft/Metal Seated.
End connection : Flanged.
Size range : 50 NB to 750 NB
Pressure rating : Class 150 / 300
Seat leakage : Class VI-soft seat, Class V-Metal seat.
Operation : Gear / Actuator (Electrical / Pneumatic)

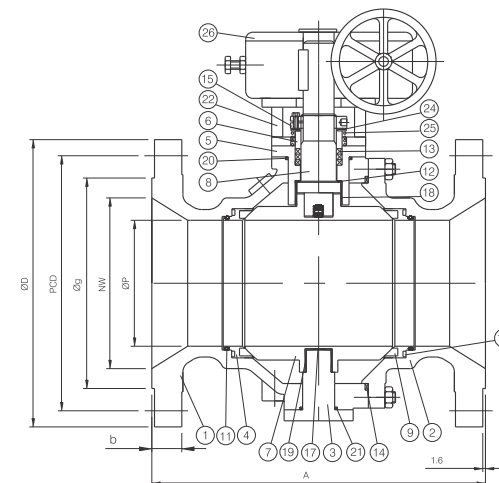
Ball Valve Series 74R2T / 74F2T 75R2T / 75F2T

Class 150/300, Regular/Full Port, Flanged Ends, Trunnion Mounted Design

Dimensional Data In mm

Size	A		NW	ØP	ØD	b	Øg	PCD	HoleØ	No. of Holes
	RP	FB								
50*	178		50	38	152	16	92	120.6	19	4
80*	203		76	58	191	19.5	127	152.4	20	4
100	229		98	76	229	24	157	190.5	20	8
150	267		148	98	279	25.5	216	241.3	23	8
200	292		198	144	342	28.6	270	298.4	23	8
250	330	533	248	187	406	30.5	324	362	25	12
300	356	610	303	228	483	32	381	431.8	25	12
350	686		335	248	535	35	413	476.3	29	12
400	762		380	303	597	37	470	539.8	29	16
450	660		435	335	635	43	533	577.8	32	16
500	914		489	387	700	43	584	635	32	20
600	1067		591	489	815	45	692	749.3	35	20
650	1143		635	591	786	41.2	749	744.5	35	36
750	1295		735	633	885	43	857.2	846.1	35	44

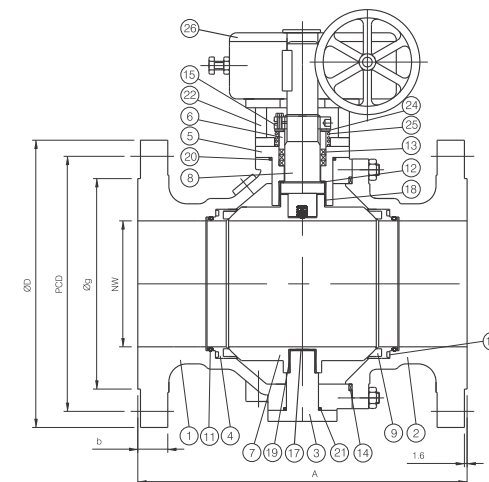
*Lever Operated



Standard material of construction:

1/2. Body /Side Piece : WCB,CF8,CF8M,CF3,CF3M,CN7M.
3/4/5. Trunnion/ Seat Retainer/ Stuffing Box : WCB,CF8,CF8M,CF3,CF3M,CN7M.
6. Gland : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
7. Ball : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
8. Stem : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
9. Seat : PTFE,GFT,CFT/Metal to Metal/Delrin, Nylon.
10. Seat Spring : Inconel, AISI 304.
11. 'O' ring : Viton.
12. Stem Washer : GFT.
13. Gland Packing : PTFE, Grafoil.
14. Body seal : PTFE, Grafoil, SWG.
15. Check Nut : Carbon steel, AISI304.
16. Thrust Washer : GFT.
17. Body Stud/Nut : B7/2H, B8/B8M
18/19. Stuffing Box Bearing/ Trunnion Bearing : SS 316 Backed PTFE.
20/21. Stuffing Box Seal/ Trunnion Seal : SS 316 Backed PTFE.
22. Bracket : Carbon Steel
23. Gland nut : Carbon Steel.
24. Belleville spring : Spring Steel.
25. Antistatic spring : SS 304.
26. Gear Box : Std.

Note: Other material available on request



Dimensional Data In mm

Dimensional Data in mm										
Size	A		NW	ØP	ØD	b	Øg	PCD	HoleØ	No. of Holes
	RP	FB								
50*	216		50	38	165	22.5	92	127	20	8
80*	283		76	58	210	29	127	168.3	23	8
100	305		98	76	254	32	157	200	23	8
150	403		148	98	317.5	37	216	270	23	12
200	419		198	144	381	41.5	270	330.2	26	12
250	457		248	187	445	48	324	387.3	29	16
300	502		303	228	520	51	381	450.8	32	16
350	760	572	335	248	585	54	413	514.3	32	20
400	610	838	380	303	650	57.5	470	571.5	29	20
450	914		435	335	710	60.5	533	628.6	35	24
500	991		489	375	775	63.5	584	685.8	35	24
600	1143		591	489	915	70	692	812.8	42	24
650	1245		635	538	970	78	749	876.3	45	28
750	1397		735	591	1092.5	92	857.2	997	48	36

*Lever Operated

Ball Valve 3 Way Class 150 / 300 / 600 / 800

Regular/Full Port, Flanged Ends, Screwed, SW Ends Floating Design



3-WAY BALL VALVES.

- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ ISO 5211 Mounting Pad Allows for mounting of actuator
- ✦ Blow-Out Proof Stem.

Multiport 3-way ball valves offer superior performance and reliability required to optimize manual and automation process performance. This versatile, high performance multi-port ball valves offer solutions to mixing and diverting, with various available flow patterns and end configurations. It can be maintained in line, leaving the end pieces intact. The direct mounting design makes automation easier. These can be offered in flanged, socket weld, threaded and butt weld connections.

The special features included are: Superior smooth stem surface that reduces seal friction and operating torque. Blow out proof stem for maximum safety. Precisely machined, mirror polished solid ball for tight shut off with less operating torque.

Conformity to codes & standards :

General design & manufacturing.	: BS EN ISO - 17292			
Valve dimensions.	: ASME B 16.10 /B 16.5.			
Valve inspection & testing.	: EN-12266-1	#800	#150	#300
	Hydro shell	: 211 kg/sq.cm	31 kg/sq.cm	77 kg/sq.cm
	Seat test	: 69 kg/sq.cm	23 kg/sq.cm	51 kg/sq.cm
	Air seat	: 7 kg/sq.cm	7 kg/sq.cm	7 kg/sq.cm

Special features

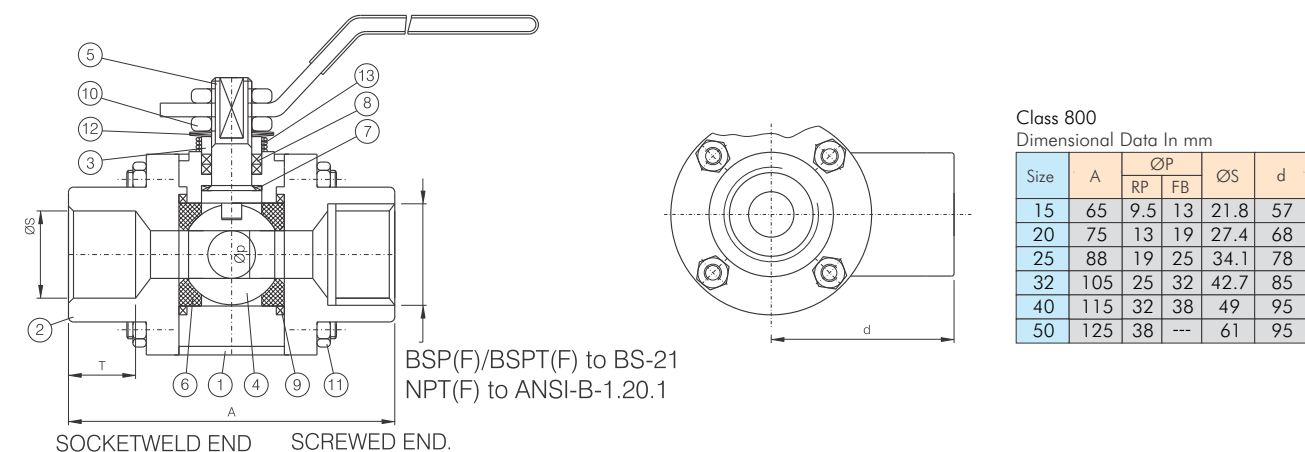
- : Fire safe design
- : Metal to Metal Seat

Technical specification:

Valve type	: 3-Way Ball Valve, 2 Seat
Body type	: 2 pc / 3 pc .
Seat type	: Soft / Metal.
End connection	: Flanged / Screwed/ Socket weld end.
Size range	: 15 NB to 150 NB for reduced port / full port
Pressure rating	: Class 150, 300 & 800
Seat leakage	: Class VI-soft seat, Class V-Metal seat.
Operation	: Hand lever /Gear / Actuator (Electrical / Pneumatic)

Ball Valve 3 Way Class 150 / 300 / 600 / 800

Regular/Full Port, Flanged Ends, Screwed, SW Ends Floating Design



Class 800

Dimensional Data In mm

Size	A	ØP	RP	FB	QS	d
15	65	9.5	13	21.8	57	
20	75	13	19	27.4	68	
25	88	19	25	34.1	78	
32	105	25	32	42.7	85	
40	115	32	38	49	95	
50	125	38	---	61	95	

Class - 150

Dimensional Data In mm

Size	A	ØP	NW	ØD	d	b	Øg	PCD	HoleØ	No. of Holes
15	108	9.5	13	89	70	11.5	35	60.5	16	4
20	117	13	19	98	76	13	43	70	16	4
25	127	19	25	108	80	11.5	51	79.5	16	4
32	140	25	32	117	86	13	64	89	16	4
40	165	32	38	127	98	14.5	73	98.5	16	4
50	178	38	50	152	107	16	92	120.6	20	4
65	190	50	65	178	125	17.5	105	139.7	20	4
80	203	58	76	191	133	19.5	127	152.4	20	4
100	229	76	98	229	157	24	157	190.5	20	8
150	267	98	148	279	216	25.5	216	241.3	23	8

Class 300

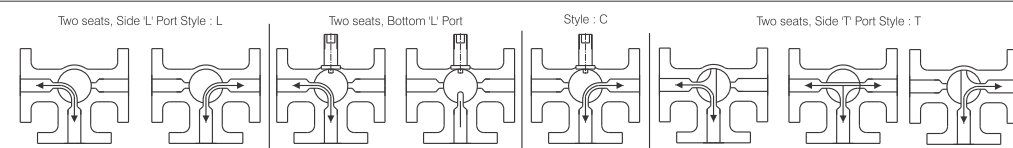
Dimensional Data in mm

Size	A	ØP	NW	ØD	d	b	Øg	PCD	HoleØ	No. of Holes
15	140	9.5	13	95	76	14.5	35	66.7	16	4
20	152	13	19	117	96	16	43	82.5	20	4
25	165	19	25	124	100	17.5	51	89	20	4
32	178	25	32	133	106	19.5	64	98.4	20	4
40	190	32	38	156	120	22	73	114.3	23	4
50	216	38	50	165	125	22.5	92	127	20	8
65	241	50	65	191	140	25.5	105	149.2	23	8
80	283	58	76	210	152	29	127	168.3	23	8
100	305	76	98	254	178	32	157	200	23	8
150	403	98	148	318	215	37	216	269.9	23	12

Standard material of construction:

- | | | | |
|---------------|--|-----------------------|------------------|
| 1. Body | : WCB,CF8,CF8M,CF3,CF3M,CN7M. | 8. Gland Packing | : PTFE, Grafoil. |
| 2. Side Piece | : WCB,CF8,CF8M,CF3,CF3M,CN7M. | 9. Body seal | : PTFE, Grafoil. |
| 3. Gland | : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C. | 10. Gland nut | : Carbon steel. |
| 4. Ball | : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C. | 11. Body stud/nut | : B7/2H, B8/B8M. |
| 5. Stem | : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C. | 12. Belleville spring | : Spring steel. |
| 6. Seat | : PTFE,GFT,CFT/Metal to Metal/Delrin, Nylon. | 13. Antistatic spring | : SS 304. |
| 7. Stem seal | : GFT. | | |

Ball valves can also be provided with Gear, Actuator (Electrical / Pneumatic).



Note: Other material available on request

Cryogenic Service Ball Valves with Extd. Bonnet up to -196° C

Class 150 / 300 / 600 / 800 Regular / Full Port, Flanged Ends, Screwed,
SW Ends Special Service Ball Valves for Cryo Application.



- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ ISO 5211 Mounting Pad Allows for mounting of actuator
- ✦ Blow-Out Proof Stem.

These ball valves meet test specifications as per BS 6364. Applications such as deep freezing and cooling involve cryogenic technology based on nitrogen, oxygen and other gases. A special type of PTFE grade ensures excellent mechanical resistance and stable torques at low temperatures. The cryogenic stem extension is provided. It is manufactured as a one piece item with the stem for increased mechanical strength. This positions stem and stem packing away from cryogenic fluid to prevent stem seal freeze up and ensures superior performance. These ball valves can be provided with Integral mounting pad ISO 5211 and can be used for actuation.

Conformity to codes & standards:

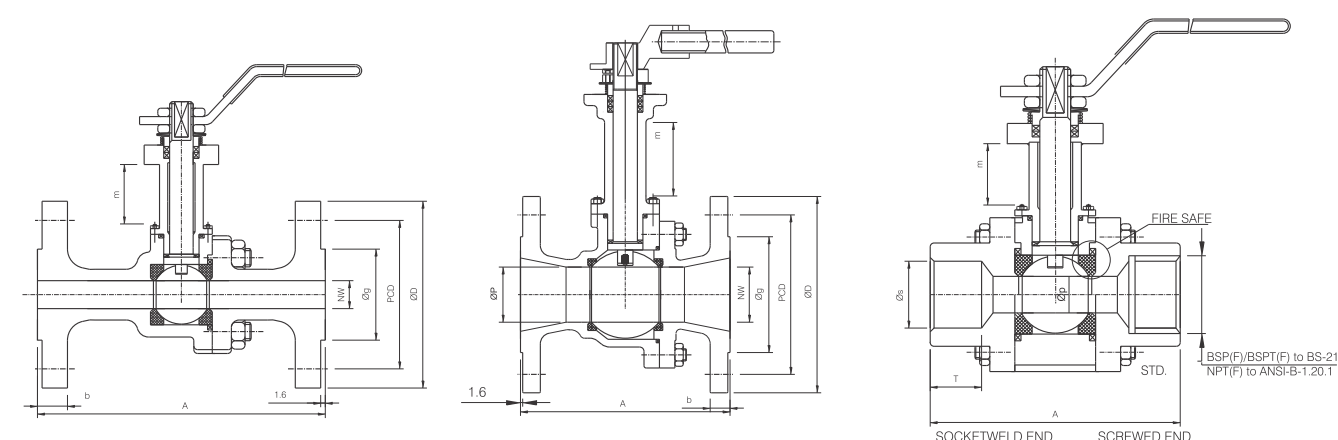
General design & manufacturing.	: BS EN ISO - 17292/ API-6D			
Valve dimensions.	: ASME B 16.10 / B 16.5.			
Valve inspection & testing.	: EN 12266-1	#800	#150	#300
Hydro shell	: 211 kg/sq.cm	31 kg/sq.cm	77 kg/sq.cm	
Seat test	: 69 kg/sq.cm	23 kg/sq.cm	51 kg/sq.cm	
Air seat	: 7 kg/sq.cm	7 kg/sq.cm	7 kg/sq.cm	
Special features	: Fire safe to API-607			
	Metal to Metal Seat			

Technical specification:

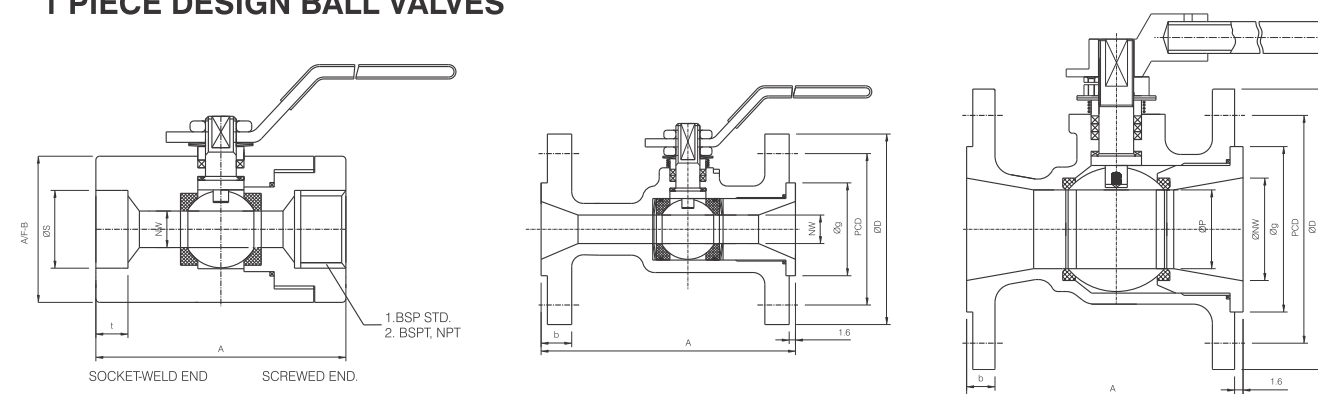
Valve type	: 2-Way / 3-Way Ball Valve.
Body type	: 2 pc / 3 pc
Seat type	: Soft / Metal.
End connection	: Flanged / Screwed / Socket weld end/butt weld.
Size range	: 15 NB to 50 NB for reduced port / full port
Pressure rating	: Class 150, 300 & 800
Seat leakage	: Class VI-soft seat, Class V-Metal seat.
Operation	: Hand lever / Gear / Actuator (Electrical / Pneumatic)

Cryogenic Service Ball Valves with Extd. Bonnet up to -196° C

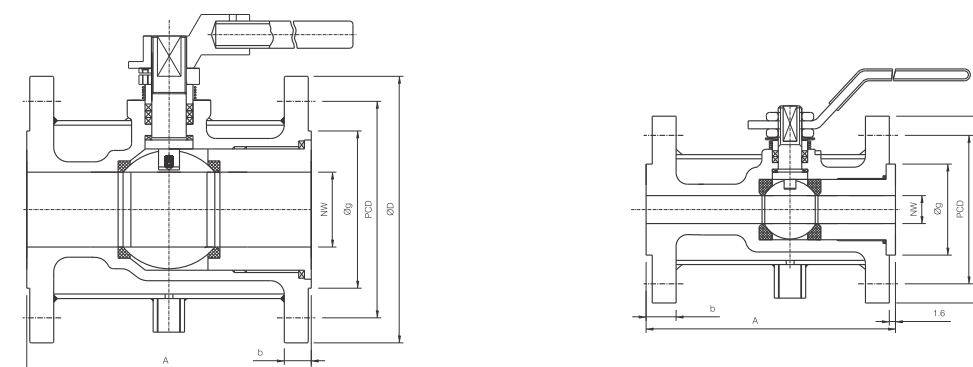
Class 150 / 300 / 600 / 800 Regular / Full Port, Flanged Ends, Screwed,
SW Ends Special Service Ball Valves for Cryo Application.



1 PIECE DESIGN BALL VALVES



JACKETED BALL VALVES.



For Dimensional Details Contact us

Ball Valve SERIES 79F2/79R2/79F2T/79R2T/ 80F2/80R2/80F2T/80R2T

Class 900/1500/2500 Regular/Full Port, Flanged / Butt Weld Ends, Floating / Trunnion Mounted.



- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ ISO 5211 Mounting Pad Allows for mounting of actuator
- ✦ Blow-Out Proof Stem.

These High Performance Ball Valves are available in Class 900 to 2500 for Floating as well as Trunnion Designs. A floating ball design offers efficient sealing with simple construction. As the name indicates, the ball has some freedom to move along the axis of the pipeline, which offers efficient downstream sealing. When line pressure is applied to the closed ball, it moves slightly (or floats) downstream to maintain contact with the downstream seat where primary sealing occurs. A quarter turn motion from full open to full close ensures quick open-close action, an inherent advantage for automatic remote control application. Floating ball valve offers effective bi-directional sealing.

Trunnion mounted design offers precise locational accuracy for the ball within the upstream and downstream seat, which ensures leaktight sealing with lower operative torques. The sealing takes place by allowing the seat to move towards the ball. This design ball valves can hold very high pressure.

Conformity to codes & standards:

General design & manufacturing. : BS EN ISO -17292/API-6D
Valve dimensions. : ASMEI B 16.10 /B 16.5.
Valve inspection & testing. : EN 12266-1 Class 1500
Hydro shell : 379 kg/sq.cm
Seat test : 281 kg/sq.cm
Air seat : 7 kg/sq.cm

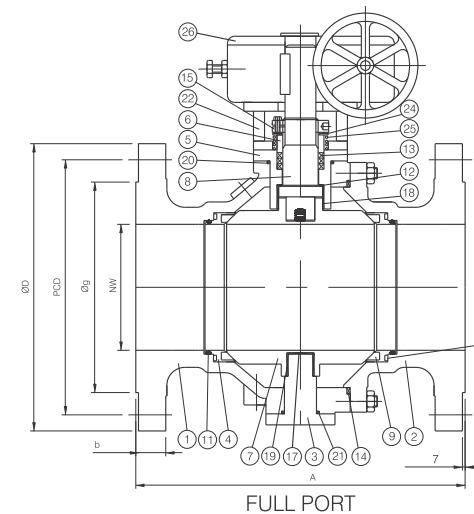
Special features : Fire safe to API-607
Metal to Metal Seat

Technical specification:

Valve type : Floating / Trunnion Mounted design ball valve
Body type : 2 pc standard / 3 pc optional.
Seat type : Soft / Metal.
End connection : Flanged, butt weld.
Size range : 15 NB to 300 NB for reduced port / full port
Pressure rating : Class 900, 1500, 2500
Seat leakage : Class VI-soft seat, Class V-Metal seat.
Operation : Hand lever/Gear / Actuator (Electrical / Pneumatic)

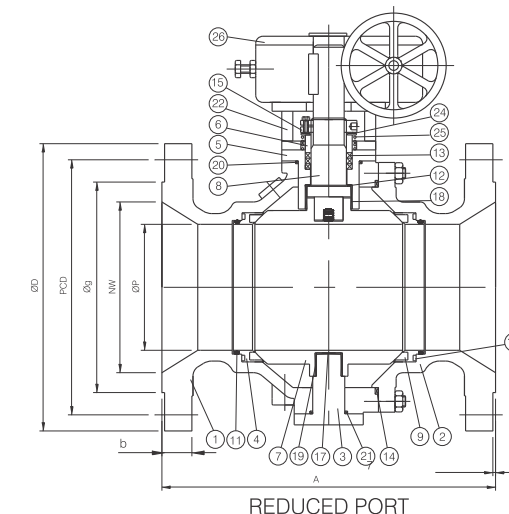
Ball Valve SERIES 79F2/79R2/79F2T/79R2T/ 80F2/80R2/80F2T/80R2T

Class 900/1500 Regular/Full Port, Flanged / Butt Weld Ends, Floating / Trunnion Mounted.



Size	A	NW	OP	OD	b	Og	PCD	HoleØ	No. of Holes
15*	216	13	9.5	121	22.5	35	82.5	23	4
20*	229	19	13	130	22.5	43	90	23	4
25*	254	25	19	149	29	51	101.6	26	4
32*	280	32	25	159	29	64	111	26	4
40*	305	38	32	178	32	73	124	29	4
50	368	50	38	216	38.5	92	165	26	8
65	419	65	50	244	41.5	105	190.5	29	8
80	381	76	58	241	38.5	127	203.5	26	8
100	457	98	76	292	44.5	157	235	32	8
150	610	148	98	381	56	216	317.5	32	12
200	737	198	144	470	63.5	270	293.7	39	12
250	737	252	203	470	63.5	270	293.7	39	12
300	737	303	252	470	63.5	270	293.7	39	12

* Lever Operated



Size	A	NW	OP	OD	b	Og	PCD	HoleØ	No. of Holes
15*	216	13	9.5	121	22.5	35	82.5	23	4
20*	229	19	13	130	22.5	43	90	23	4
25*	254	25	19	150	29	51	101.6	26	4
32*	280	32	25	160	29	64	111	26	4
40*	305	38	32	180	32	73	124	29	4
50	368	50	38	215	38.5	92	165	26	8
65	419	65	50	245	42.0	105	190.5	32	8
80	470	76	58	265	48.0	127	203.2	35	8
100	546	100	76	310	54.0	157	241.3	42	8
150	705	144	100	395	82.6	216	317.5	38	12
200	832	192	144	485	92.1	270	393.7	44	12
250	991	239	192	585	108	324	482.6	51	12
300	1130	303	239	675	124	381	571.5	54	16

* Lever Operated

Standard material of construction:

1/2 Body /Side Piece : WCB,CF8,CF8M,CF3,CF3M,CN7M.
3/4/5. Trunnion/ Seat Retainer/ Stuffing Box : WCB,CF8,CF8M,CF3,CF3M,CN7M.
6. Gland : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
7. Ball : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
8. Stem : SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
9. Seat : PTFE,GFT,CFT/Metal to Metal/Delrin, Nylon.
10. Seat Spring : Inconel, AISI 304.
11. 'O' ring : Viton.
12. Stem Washer : GFT.
13. Gland Packing : PTFE, Grafoil.
14. Body seal : PTFE, Grafoil, SWG.
15. Check Nut : Carbon steel, AISI304.
16. Thrust Washer : GFT.
17. Body Stud/Nut : B7/2H, B8/B8M.
18/19. Stuffing Box Bearing/ Trunnion Bearing : AISI 316 Backed PTFE.
20/21. Stuffing Box Seal/ Trunion Seal : AISI 316 Backed PTFE.
22. Bracket : Carbon steel.
23. Gland nut : Carbon steel.
24. Belleville spring : Spring steel.
25. Antistatic spring : SS 304.
26. Gear Box : Std.

Note: Other material available on request
15NB to 32NB Standard flating design

Ball Valve SERIES 76F2/76R2/76F2T/76R2T/

Class 600 Regular/Full Port, Flanged / Butt Weld Ends, Floating / Trunion Mounted.



- ✦ Maintenance free live loaded double sealing stem packing ensures high cycles life and positive sealing.
- ✦ ISO 5211 Mounting Pad Allows for mounting of actuator
- ✦ Blow-Out Proof Stem.

These High Performance Ball Valves are available in Class 600 for Floating as well as Trunion Designs. A floating ball design offers efficient sealing with simple construction. As the name indicates, the ball has some freedom to move along the axis of the pipeline, which offers efficient downstream sealing. When line pressure is applied to the closed ball it moves slightly (or floats) downstream to maintain contact with the downstream seat where primary sealing occurs. A quarter turn motion from full open to full close ensures quick open-close action, an inherent advantage for automatic remote control application. Floating ball valve offers effective bi-directional sealing. Trunion mounted design offers precise locational accuracy for the ball within the upstream and downstream seat, which ensures leak tight sealing with lower operative torques. The sealing takes place by allowing the seat to move towards the ball. This design ball valves can hold very high pressure.

Conformity to codes & standards:

General design & manufacturing.
Valve dimensions.
Valve inspection & testing.

: BS EN ISO -17292/API-6D
: ASME B 16.10 /B 16.5.
: EN 12266-1
Hydro shell : 152 kg/sq.cm
Seat test : 112 kg/sq.cm
Air seat : 7 kg/sq.cm
: Fire safe to API-607
Metal to Metal Seat

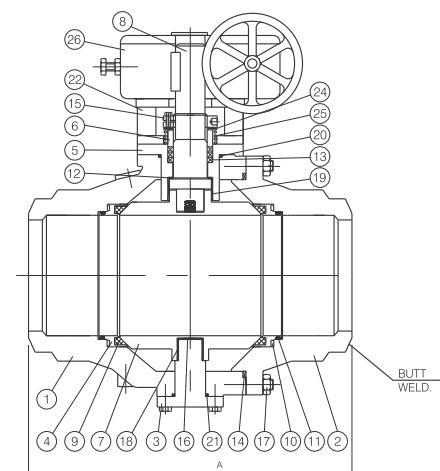
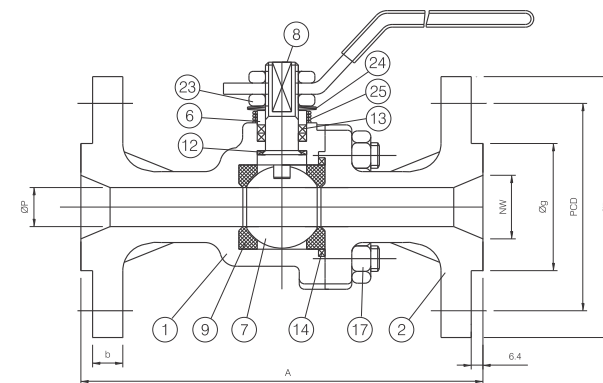
Special features

Technical specification:

Valve type : Floating / Trunion Mounted design ball valve
Body type : 2 pc standard / 3 pc optional.
Seat type : Soft / Metal.
End connection : Flanged, butt weld.
Size range : 15 NB to 600 NB for reduced port / full port
Pressure rating : Class 600
Seat leakage : Class VI-soft seat, Class V-Metal seat.
Operation : Hand Gear / Actuator (Electrical / Pneumatic)

Ball Valve SERIES 76F2/76R2/76F2T/76R2T/

Class 600 Regular/Full Port, Flanged / Butt Weld Ends,
Floating / Trunion Mounted.



Size	A	NW	ØP	ØD	b	Øg	PCD	HoleØ	No.of Holes
15	165	13	9.5	95	14.5	35	66.7	16	4
20	190	19	13	117	16	43	82.5	20	4
25	216	25	19	124	17.5	51	88.9	20	4
32	229	32	25	133	21	64	98.4	20	4
40	241	38	32	156	22.5	73	114.3	23	4
50	292	50	38	165	25.5	92	127	20	8
65	330	65	50	191	29	105	149.2	23	8
80	365	76	58	210	32	127	168.3	23	8
100	432	98	76	273	38.5	157	215.9	26	8
150	559	148	98	356	48	216	292.1	29	12
200	660	198	144	419	55.5	270	349.2	32	12
250	787	248	187	508	63.5	324	431.8	35	16
300	838	303	228	559	66.5	381	488.9	35	20
350	889	337	266	605	70	416	527	39	20
400	991	387	303	685	76.5	470	632	42	20
450	1092	438	337	745	83	533	654	45	20
500	1194	489	387	815	89	584	723.9	45	24
600	1295	540	438	940	102	692	838.2	51	24

Standard material of construction:

1/2Body /Side Piece
3/4/5. Trunion/ Seat Retainer/ Stuffing Box
6. Gland
7. Ball
8. Stem
9. Seat
10. Seat Spring
11. 'O' ring
12. Stem Washer
13. Gland Packing
14. Body seal
15. Check Nut
16. Thrust Washer
17. Body Stud/Nut
18/19. Stuffing Box Bearing/ Trunion Bearing
20/21. Stuffing Box Seal/ Trunion Seal
22. Bracket
23. Gland nut
24. Belleville spring
25. Antistatic spring
26. Gear Box

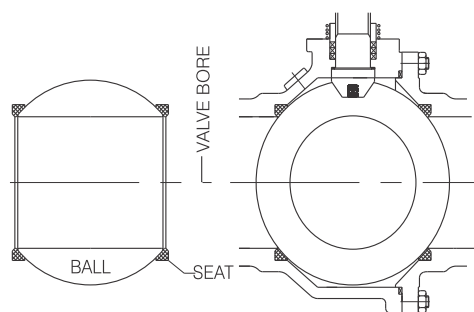
: WCB,CF8,CF8M,CF3,CF3M,CN7M.
: WCB,CF8,CF8M,CF3,CF3M,CN7M.
: SS410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
: SS 410,304,316,316L,304L,Monel,Alloy20,Hast-B,C.
: PTFE,GFT,CFT/Metal to Metal/Delrin, Nylon.
: Inconel, AISI 304.
: Viton.
: GFT.
: PTFE, Grafoil.
: PTFE, Grafoil, SWG.
: Carbon steel, AISI304.
: GFT.
: B7/2H, B8/B8M.
: AISI 316 Backed PTFE.
: AISI 316 Backed PTFE.
: Carbon steel.
: Carbon steel.
: Spring steel.
: SS 304.
: Std.

Ball valves can also be provided with Gear, Actuator (Electrical / Pneumatic).

Note: Other material available on request

BALL VALVES

Salient design features and benefits of our range

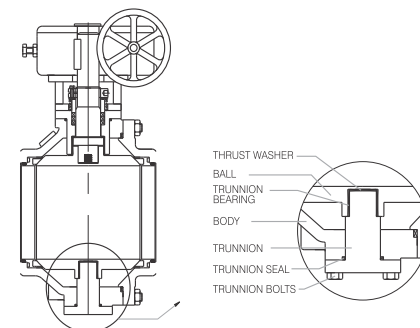


Floating design

A floating ball design offers efficient sealing with simple construction. As the name indicates, the ball has some freedom to move along the axis of the pipeline, which offers efficient downstream sealing. When line pressure is applied to the closed ball, it moves slightly (or floats) downstream to maintain contact with the downstream seat where primary sealing occurs. A quarter turn motion from full open to full close ensures quick open-close action, an inherent advantage for automatic remote control application. Floating ball valve offers effective bidirectional sealing.

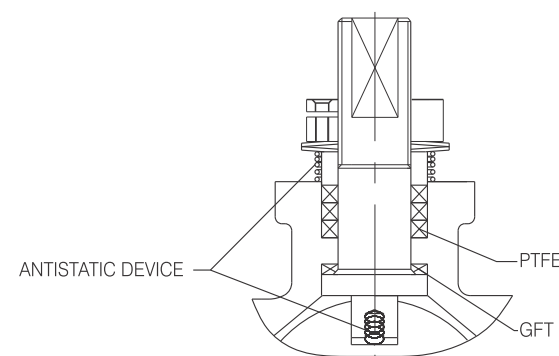
Trunnion Mounted design

Trunnion mounted design offers precise locational accuracy for the ball within the upstream and downstream seat, which ensures leak tight sealing with lower operative torques. The sealing takes place by allowing the seats to move towards the ball. This design ball valves can hold very high pressures.



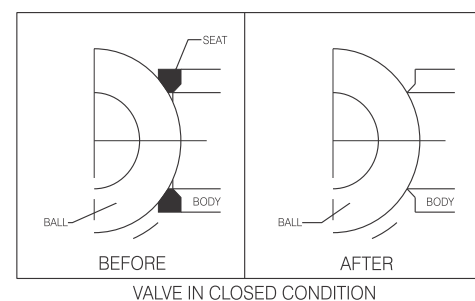
Antistatic Design Feature

Antistatic design feature provided in the valve prevents any accidental fire due to static electric discharge. With the low resistance short circuit path created between the ball and the valve body, any build up of static electric charge on the ball due to constant rubbing within the PTFE seat is prevented. The ball valve is completely conductive between ball and body in which no static electricity may develop - a requirement essential to the treatment of such low flashing point fluids as gasoline, natural liquified gas, propane gas etc.



Fire-safe

Valves exposed to the risk of accidental external fire need to have additional secondary metal sealing system to make it fire safe. Special design features are built into the valve to ensure continued sealing performance even after burn out of the soft sealing parts of the valve. A metal seat located on the body comes in direct contact with the ball on burnout of the soft parts ensuring continued sealing. Full range approved as per latest edition.

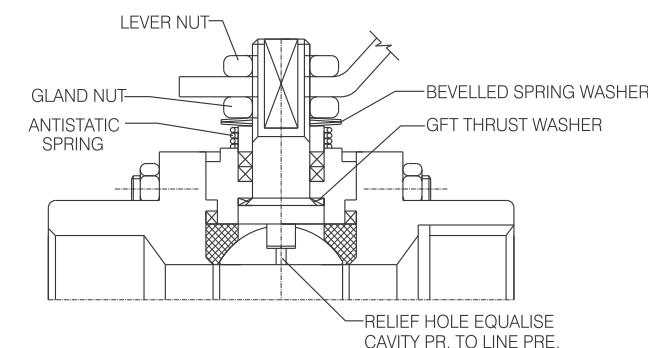


BALL VALVES

Salient design features and benefits of our range

Blow out proof and self-compensating stem

Aqua Ball Valve have safe blow out proof stem Assembly, which eliminates the possibilities of hazards. With GFT thrust washer the stem is inserted through the valve body cavity and rests against a shoulder machined in the valve body. PTFE / Graphoil gland packings above the shoulder are held in place by a gland which is machined taper to give sealing between stem and packing.



Block and Bleed

This is a function for providing seal of fluids by upstream and downstream seats with the valve in close positioned for draining the fluids accumulated in the body cavity. The benefits are : Leaks and damage to the seats are checked in advance. Contamination caused during changing fluid types is minimized. parts of the gland seal can be changed under pressure.

Metal Seated Ball Valve

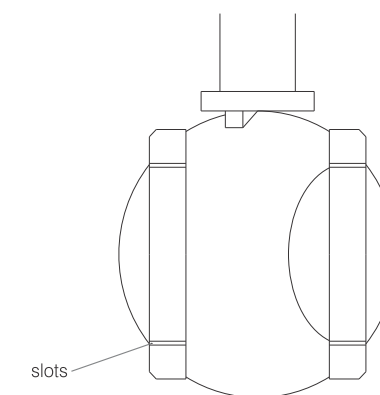
The metal seated ball valves are available in all ranges. Its quality starts with the sphericity of the ball and the surface finish. The ball is of mirror quality finish. This provides outstanding smoothness and roundness, resulting in a prime contribution to low torque and reduced leakage up to Class V. The metal seated ball valves typically can be used for higher temperature ranges & abrasive service.

Self-compensating Stem

Above the gland two belleville washers (disc spring) and gland nut are provided. The gland nut allows gland packing adjustment, and disc spring automatically compensates for normal wear as well as seal expansion and contraction from temperature fluctuations. The gland nut is provided below the handle permitted the handle to be removed without disturbing the stem adjustment or causing an unsafe condition.

Pressure relief Slots

If the pressure of the fluid the valve body cavity exceeds the line pressure due to thermal expansion of the liquids entrapped in the valve body, seats provide automatic pressure relief, without the aid of the safety or vent valve. During closing of the valve, the maximum surge pressure occurs, during which the downstream seat can be forced to intrude into the ball port and can become inoperative. The pressure relief slots prevent this potential failure. When pressure causes the upstream seat to move against the ball the ball moves downstream, the pressure simply leaks in the ball port through the relief slot.



Key Lock

Especially when installed outdoors, to prevent the valve from wrong operations, it is lockable with a pad lock at two points fully closed or open positions. In other words, an operation of the valve is limited to protect it against the possibilities that an outsider may accidentally operate the lever or the valve may be opened or closed due to vibrations, especially when an inflammable petroleum product or chemicals are handled.

In Addition to this we also provide

- ◆ Single-seal and double-seal system.
- ◆ Sealant injection system can be provided on request.
- ◆ Ball valves for cryogenic service, oxygen, chlorine service.
- ◆ Jacketed & V-notch ball valves.
- ◆ Tungsten Carbide & Chromium Carbide coating is available for ball & seat.