

Three piece design is well suited for use in piping systems where line breaks are required and total entry into the line is necessary. The center section-body can swing out, eliminating the dismantling of entire valve from pipeline.

Note: This is possible only for threaded, socket & butt weld end connections.



Size	Bore	Ends	Class	Model No.
15-50 mm 1/2" to 2"	Full	Screwed-BSP"II'	600	BL-3O-F-P-A3
		Screwed-NPT	600	BL-3O-F-N-A3
		Socketweld	600	BL-3O-F-W-A3
		SW with Pups	600	BL-3O-F-WN-A3
20-50 mm 3/4" to 2"	*Regular	Screwed-BSP"II'	800	BL-3E-F-P-A4
		Screwed-NPT	800	BL-3E-F-N-A4
		Socketweld	800	BL-3E-F-W-A4
		SW with Pups	800	BL-3E-F-WN-A4
8-50 mm 1/4" to 2"	Full	Screwed-BSP"II'	800	BL-3E-F-P-A4
		Screwed-NPT	800	BL-3E-F-N-A4
		Socketweld	800	BL-3E-F-W-A4
		SW with Pups	800	BL-3E-F-WN-A4
		Buttweld ends	800	BL-3E-F-B-A4
15-150 mm 1/2" to 6"	Full	Flange	150	BL-3-F-F-A1
		Flange	*PN16	BL-3-F-F-A13

* Not shown in this catalogue

DESIGN FEATURES

- Three Piece Swing out design makes in-line maintenance possible
- High quality casting
- Fully interchangeable trim parts
- Full or Reduce Bore
- Blowout proof Stem
- Renewable Seat & Seals
- 'O' style body seals (Except flanged)
- Double Body seals (In Fire safe design only)
- Anti-Static Device
- Live-loaded design eliminates stem leakage while providing longer life cycle.
- Mounting Pad to DIN 3337 / ISO 5211
- Bi-direction design for back flow application.

OPTIONS

- Extended handle for pipe insulation & safety whilst operation
- Extended Stem to suit pipe insulation, gland seals deformation, in-line leakage monitoring
- Pad lock capabilities provide maximum safety.
- Vented ball to reduce damage caused by trapped cavity pressure.
- Cavity free seals to reduce the possible entrapment of line media fluids in the void between the ball and the shell.

SERVICE APPLICATIONS

- Chemical | Steam |
- Food Processing | Thermal Fluids
- Oxygen | Vacuum
- Water/Oil/Gas

STANDARDS COMPLIANCE

- Design : ASME B 16.34, BS EN ISO 17292
- Pressure Test : API 598 / BS EN ISO 12266-1
- End to End : ASME B 16.10 (Flanged & buttweld)
: MEWPL's Std.(Screwed & Socket weld)
- End Conn : Flange ANSI B 16.5
: Screwed BSP"II'- IS 554
: NPT-ASME B1.20.1
: Socketweld ASME B 16.11
: Buttweld ASME 16.25
- Mounting Pad : DIN 3337/ ISO 5211
- Material Certiftn. : DIN 50.049-3 1B
- NACE : MR 01-75 compliant
- Quality Systems / : ISO 9001
- Certifications

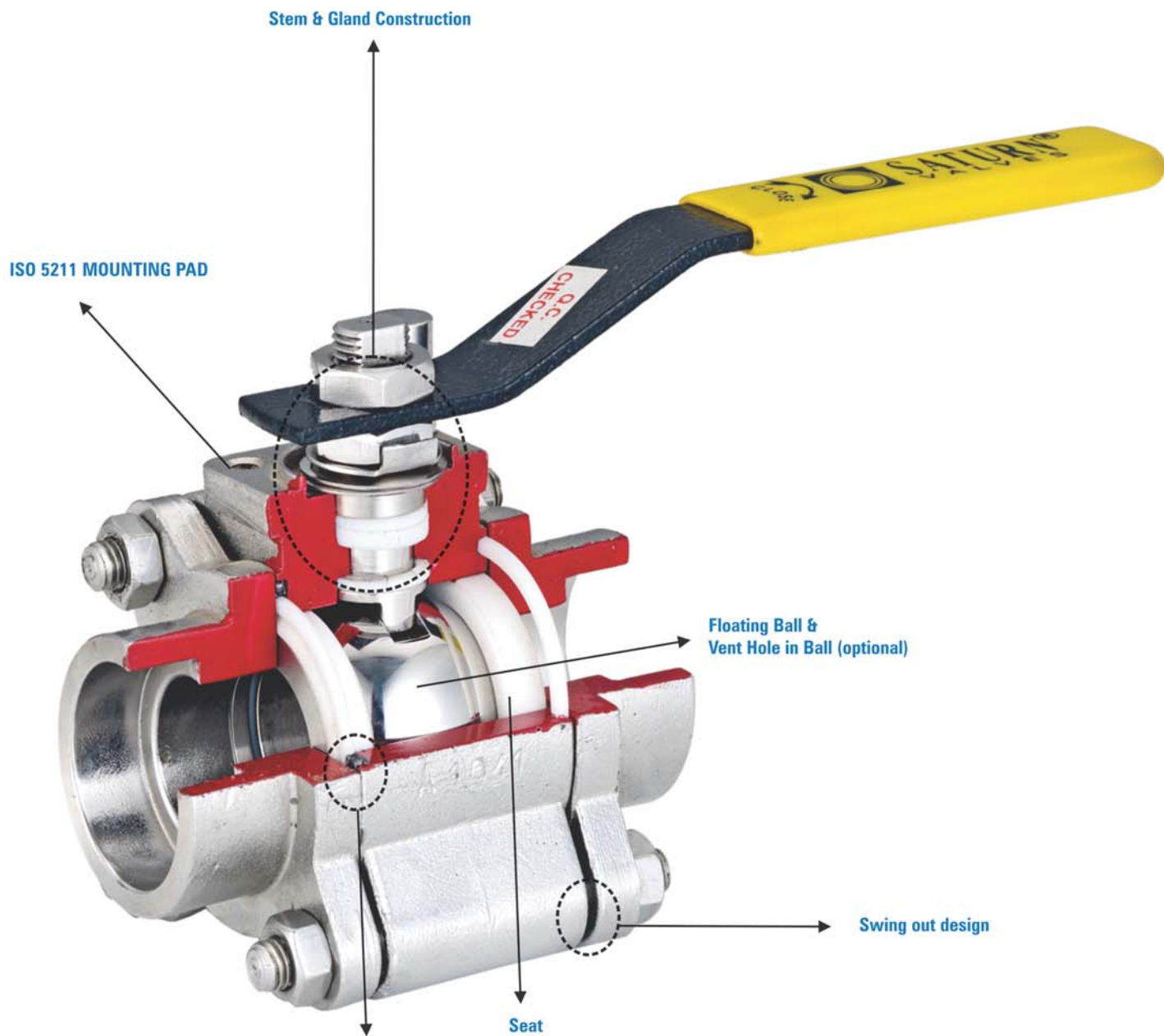


Screwed end,
600 Class

Buttweld end, 800 class
Face to Face as per
ASME B 16.10, 600 Class

Extended Stem / LTCS Ball Valves,
800 Class

Flange end
150 Class



Combined Feature of Double Body Seals :
PTFE & GRAPHITE

Please refer next page for explanation of above features

Gland Packing

The packing set is a combination of parallel and vertical layer sealing elements, which are made of elastomer and graphite rings having less stress relaxation and low creep. With this special structure it allows for a low-friction on rotary stem, providing the stabilized seal performance for long cycle life.

For medium and low temperature service, the standard V shape PTFE packing rings are installed for low emission control.

Auto Packing Compensation

Live loading is designed to provide gland load retention, compensating for expected in-service consolidation of the packing. A set of Belleville-Spring Washers are used on gland spacer to help exert a continuous compressive force on the gland spacer and therefore reduce fugitive emissions from the stem packing.

Anti-Static Device

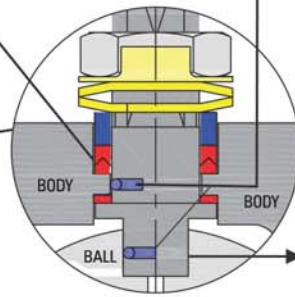
When static are generated due to high velocity of fluid and concentrated on the ball, the spring-loaded pins installed on stem are provided to ensure electrical continuity throughout the ball, stem & body.

In addition to this the inter components like graphite body seal & gland seal have good electric conductivity which discharges the static.

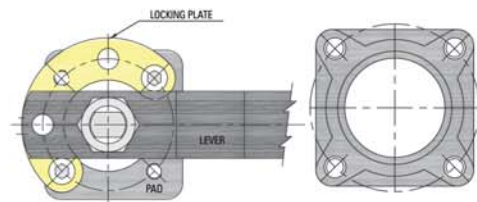
Note : For sizes up to 2" one antistatic device is provided

Blow-out Proof Stem

Stem lower end is integral T shaped designed to be blow-out proof. It is internally inserted and functions as the backseat for assured stem sealing at all pressures.



Stem & Gland Construction



ISO 5211 MOUNTING PAD

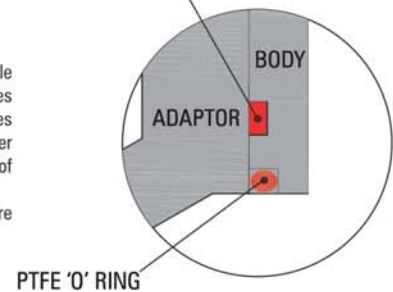
All our Ball valves are Equipped with an Integral mounting pad as per ISO 5211 that facilitates easy mounting of hardware viz. pneumatic Actuator, Gear box, Limit Switch, Locking arrangement, etc.

Combined Feature of Double Body Seals : PTFE & GRAPHITE

Fire safe Ball valves equipped with the feature of Double body joint gaskets of PTFE 'O' seal & graphite that ensures positive joint leakage prevention against pipeline stresses & mis-alignment. The inner body 'O' seal of elastomer prevents the contact of the fluid with the outer body seal of graphite having pure carbon.

Note: Dual body seal arrangement is provided only in Fire safe ball valves

GRAPHITE GASKET

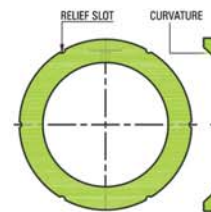
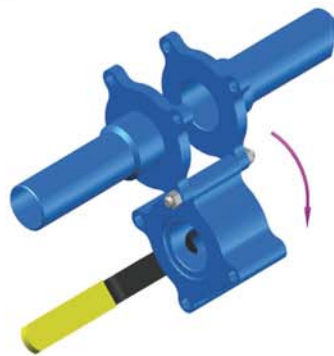


PTFE 'O' RING

Swing out design

The center Section-body can swing out, eliminating of entire valve from pipeline. Because of the design, the seat, seals & ball can all be replaced quickly and easily without disturbing piping alignment

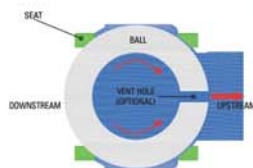
Note : This is possible only for threaded, socket & butt weld end connections.



Seat

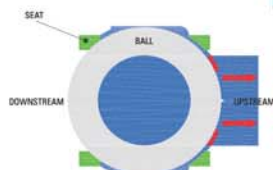
The special design seat feature relief slots or seat O.D. Clearance to relieve pressure past the upstream seat. This design reduces friction, minimize seat wear and lowering operating torque. The curvature design feature minimize contact between the ball & seat when the valve is in open position, thus it prevent cold flow, lowers torque and reduced wear.

Vent Hole in Ball (optional)



When the pressure inside the valve body cavity exceeds the line pressure due to thermal expansion of the liquids entrapped in the valve body; to relieve this vapor pressure positively vent hole is provided towards upstream that helps preventing seat life, reduces operational torque and chances of accidents.

Floating Ball

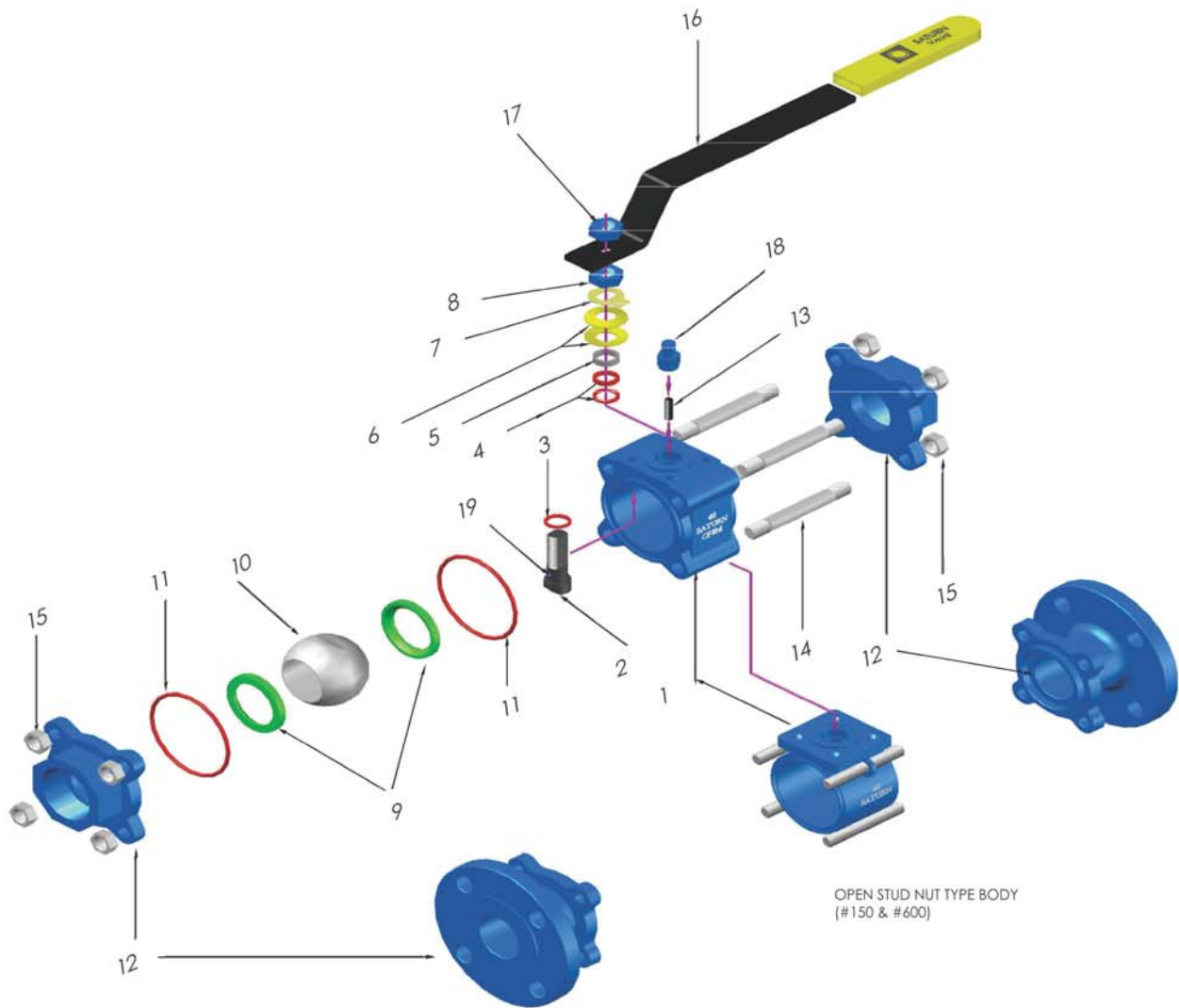


A Floating Ball design offer efficient bi-directional downstream sealing. When line pressure is applied to the closed ball, it moves slightly (or floats) downstream to maintain contact with the downstream seat where primary sealing occurs.

The downstream sealing also overcomes two most common difficulties in the use of conventional ball valves; seat damage & high operating torque.

The pressure relief slots design also features automatic pressure relief from upstream in continuous pressure. 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 valve can become inoperative. The pressure relief slots prevent this potential failure. When pressure causes the upstream seat to move against the ball and ball moves to the downstream seat to effect and maintain a seal, the pressure simply leaks into the ball port through the relief slots.

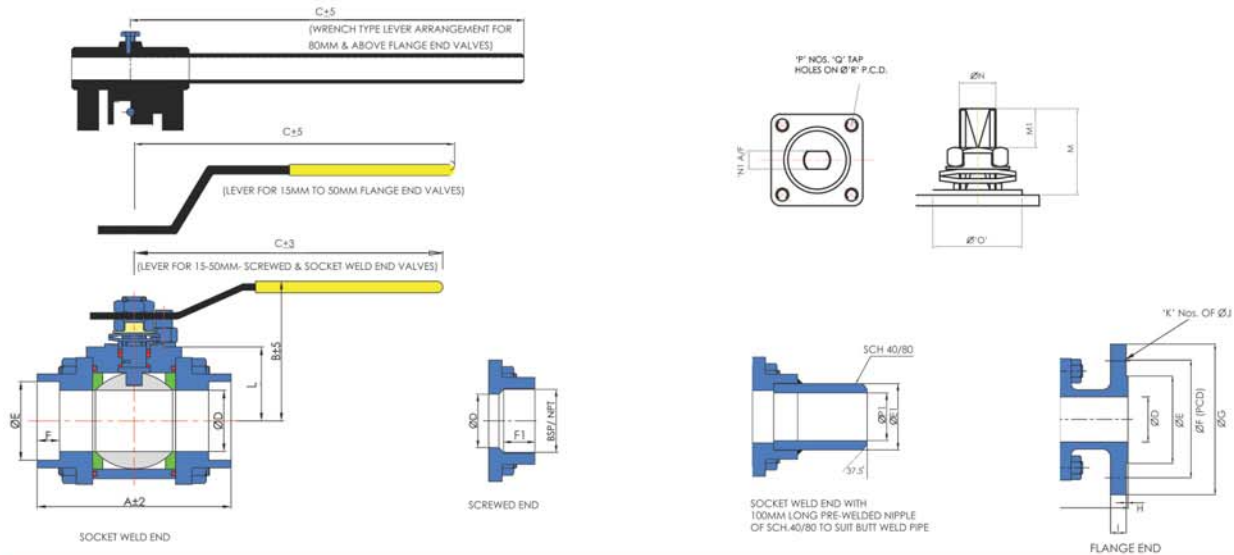
EXPLODED VIEW



OPEN STUD NUT TYPE BODY
(#150 & #600)

Part No.	DESCRIPTION	SPECIFICATION									QTY.
		CARBON STEEL	LOW TEMP -50°F (-46°C)	STAINLESS STEEL			NICKEL BASED ALLOY				
1	BODY	A216WCB	A352LCB/A352LCC	SS 304 A351CF8	SS 304 L A351CF3	SS 316 A351CF8M	SS 316 L A351CF3M	Alloy 20 A 351 CN7M	Monel A494 M35-1	Hastelloy C A494 CW-12MW	1
2	THRUSHT WASHER			PTFE /GFT /CFT							1
3	STEM	SS304/316		SS 304	SS 304 L	SS316	SS316 L	Alloy 20	Monel	Hastelloy C	1
4	GLAND SEALS			PTFE /GFT /CFT /GRAPHITE							1 SET
5	GLAND SPACER			SS316			Alloy 20	Monel	Hastelloy C	1	
6	BELLEVILLE WASHER		SPRING STEEL ZINC PLATED / SS 304						STAINLESS STEEL		2
7	LOCK WASHER		CARBON STEEL ZINC PLATED / SS 304						STAINLESS STEEL		1
8	GLAND NUT		SS 304			SS316			SS316 L		1
9	SEAT			PTFE /GFT /CFT /TFM 1600/PEEK							2
10	BALL	SS304/316		SS 304	SS 304	SS316	SS316	Alloy 20	Monel	Hastelloy C	1
11	BODY 'O' TYPE RING		PTFE / GRAPHITE								1
12	ADAPTOR	A216WCB	A352LCB/A352LCC	A351CF8	A351CF8	A351CF8M	A351CF8M	Alloy 20 A 351 CN7M	Monel A494 M35-1	Hastelloy C A494 CW-12MW	1
13	GRUB SCREW			CARBON STEEL-HT							1
14	BODY STUD	A193-B7	A193-B7M	A193-B7 / A193-B8 / A193-B8M					A193-B8M		4
15	BODY NUT	A194-2H	A194-2HM	A194-2H / A194-B8 / A194-B8M					A194-B8M		8
16	LEVER WITH PVC SLEEVE		CARBON STEEL ZINC PLATED / STAINLESS STEEL						STAINLESS STEEL		1
17	LEVER NUT		CARBON STEEL ZINC PLATED / STAINLESS STEEL						STAINLESS STEEL		1
18	STOPPER		CARBON STEEL ZINC PLATED / STAINLESS STEEL						STAINLESS STEEL		1
19	ANTISTATIC DEVICE		SS316						SS316 L		1 / 2

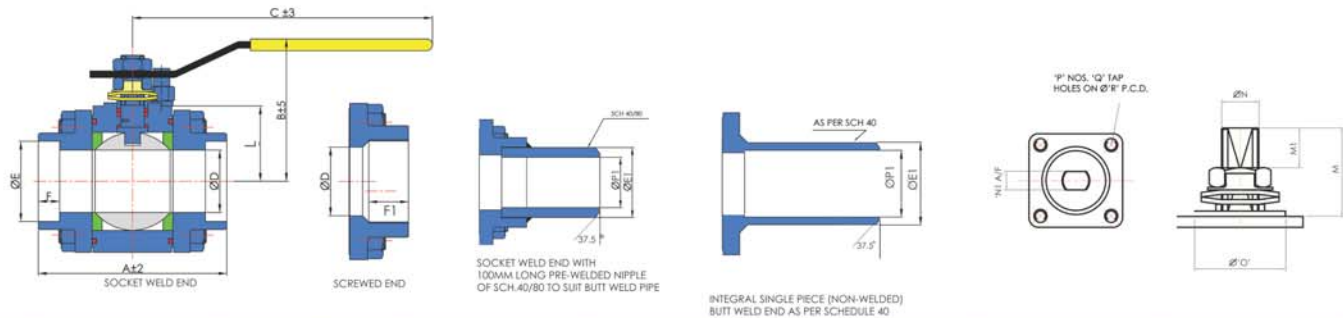
THREE-PIECE, SPLIT BODY, SIDE ENTRY, 600 CLASS SCREWED, SOCKET WELD & 150 CLASS FLANGE END BALL VALVE



THREADED END 600#				BSP II - BL-30-F-P-A3 NPT - BL-30-F-N-A3				SOCKET WELD END 600# SW WITH 100MM WELDED PUPS				BL-30-F-W-A3 BL-30-F-WN-A3				ISO PAD DETAILS			Ø P1			WEIGHT (KG)	
VALVE SIZE	A	B	C	Ø D	Ø E	F	F1	L	M	M1	Ø N	Ø O	Ø N1 A/F	P	Q	R PCD	PAD NO.	Ø E1	SCH. 40	SCH. 80	THRD. ENDS	SW ENDS	
15	70	57	128	12.7	21.7	10	14	29.5	15	9.5	11.1	25	6.3	4	M5	36	F03	21.3	15.7	13.8	0.5	0.63	
20	85	60	128	19	27	13	16	34	13.5	9.5	11.1	30	6.3	4	M5	42	F04	26.7	21	18.9	0.8	0.8	
25	95	73	155	25.4	33.8	13	19	39.5	23.5	12	12.7	30	7.9	4	M5	42	F04	33.4	26.6	24.3	1.4	1.37	
32	103	77	155	31.8	42.5	13	20.5	45	22	12	12.7	35	7.9	4	M6	50	F05	42.1	35	32.4	1.8	1.6	
40	115	87	153	38.1	48.6	13	22	46	31.3	14	14.3	35	9.5	4	M6	50	F05	48.3	41	38.1	2.9	2.8	
50	127	102	203	50.8	61.1	16	22	58.7	34.5	15.5	17	55	11.1	4	M8	70	F07	60.3	52.5	49.2	4.0	4.6	

FULL BORE FLANGED, 150# BL-3-F-F-A1				FLANGE DIMENSIONS				ISO PAD DETAILS												
VALVE SIZE	A	B	C	Ø D	Ø E	PCD Ø F	Ø G	H	I	Ø J	K	M	M1	Ø N	Ø N1 A/F	Ø O	P	Q	PCD Ø R	ISO S211
15	108	81	160	12.7	34.9	60.3	90	2	10	15.9	4	15	9.5	11.1	6.3	25	4	M5	36	F03
20	117	85	160	19	42.9	69.9	100	2	10.9	15.9	4	13.5	9.5	11.1	6.3	30	4	M5	42	F04
25	127	99	180	25.4	50.8	79.4	110	2	11.6	15.9	4	23.5	12	12.7	7.9	30	4	M5	42	F04
32	140	103	180	31.7	63.5	88.9	115	2	13.2	15.9	4	22	12	12.7	7.9	35	4	M6	50	F05
40	165	115	227	38.1	73	98.4	125	2	14.7	15.9	4	31.3	14	14.3	9.5	35	4	M6	50	F05
50	178	124	247	50.8	92.1	120.7	150	2	16.3	19	4	34.5	15.5	17	11.1	55	4	M8	70	F07
65	190	132	305	63.5	104.8	139.7	180	2	17.9	19	4	32	15.5	17	11.1	55	4	M8	70	F07
80	203	161	385	75	127	152.4	190	2	19.5	19	4	40	20.6	23.8	15.87	70	4	M10	102	F10
100	229	195	385	98	157.2	190.5	230	2	24.3	19	8	45.5	21.2	28.6	19	70	4	M10	102	F10

THREE-PIECE, SPLIT BODY, SIDE ENTRY, 800 CLASS SCREWED, SOCKET WELD & BUTT WELD END BALL VALVE



THREADED END				BSP II - BL-3E-F-P-A4 NPT - BL-3E-F-N-A4				SOCKET WELD END SW WITH 100MM WELDED PUPS				BL-3E-F-W-A4 BL-3E-F-WN-A4				INTEGRAL BUTTWELD END				BL-3E-F-B-A4				
VALVE SIZE	A	*A1	B	C	Ø D	Ø E	F	F1	L	M	M1	Ø N	Ø O	Ø N1 A/F	P	Q	R PCD	PAD NO.	Ø E1	SCH. 40	SCH. 80	THRD. ENDS	SW ENDS	BW ENDS
15	70	165	57	125	12.7	21.8	10	14	29.5	15	9.5	11.1	25	6.3	4	M5	36	F03	21.3	15.7	13.8	0.9	0.63	0.9
20	85	190	60	125	19	27.4	13	16	34	13.5	9.5	11.1	30	6.3	4	M5	42	F04	26.7	21	18.9	1.1	1.1	1.3
25	95	216	73	150	25.4	34.1	13	19	39.5	23.5	12	12.7	30	7.9	4	M5	42	F04	33.4	26.6	24.3	1.9	1.4	1.8
32	103	-	79	150	31.8	42.5	13	20.5	45	22	12	12.7	35	7.9	4	M6	50	F05	42.1	35	32.4	3	2.8	-
40	115	241	87	180	38.1	49	13	22	46	31.3	14	14.3	35	9.5	4	M6	50	F05	48.3	41	38.1	3.8	3.37	3.9
50	127	292	102	200	50.8	61.1	16	22	58.7	34.5	15.5	17	55	11.1	4	M8	70	F07	60.3	52.5	49.2	6.2	5.8	7.0

*INTEGRAL BUTTWELD END, AS PER ASME B 16.10, 600#