

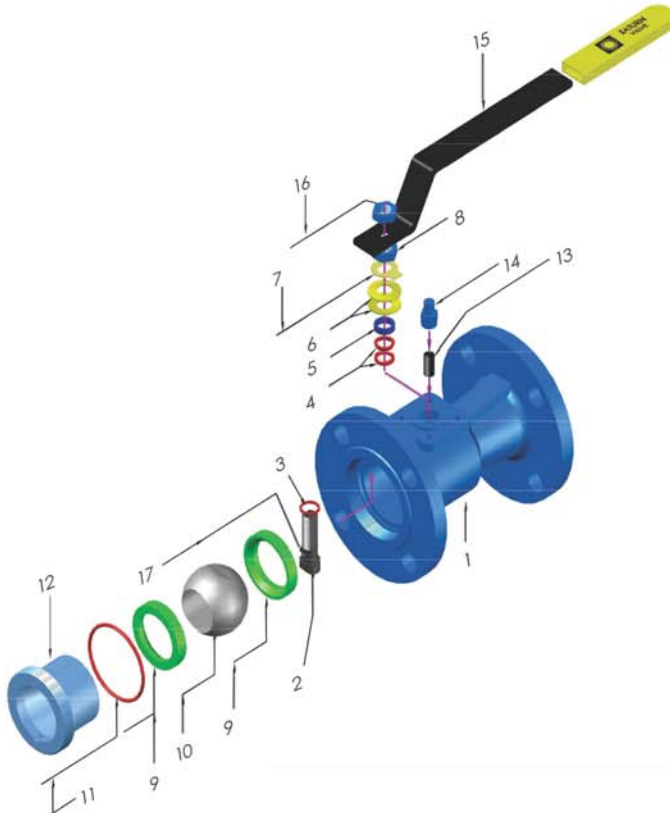
# SINGLE PIECE, SPLIT BODY, REGULAR BORE, SIDE ENTRY FLANGE END BALL VALVE



Suitable for eliminating external joint leakage to the atmosphere where applications are highly critical, media is expensive, toxic and external joint leakage is not acceptable.



Size	Type	Class	Model No.
15-150 mm	Standard	150	BL-1-R-F-A1
	Fire Safe	150	BL-F-1-R-F-A1
1/2" to 6"	Standard	300	BL-1-R-F-A2
	Fire Safe	300	BL-F-1-R-F-A2



### DESIGN FEATURES

- High quality casting
- Fully interchangeable trim parts
- Firesafe to API 607 Std.
- Blowout proof Stem
- Renewable Seat & Seals
- 'O' style body seal for better joint sealing & reusable (Standard valve)
- 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 seat damage caused by trapped cavity pressure.

### 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
- Flange Dimn.: ANSI B 16.5
- Mounting Pad: DIN 3337/ ISO 5211
- Material Certification : DIN 50.049-3 1B
- NACE MR 01-75 compliant
- Quality Systems / Certifications: ISO 9001

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	
3	THRUSHT WASHER	PTFE /GFT /CFT									1	
2	STEM	SS304/316			SS 304	SS304 L	SS316	SS316 L	Alloy 20	Monel	Hastelloy C	1
4	GLAND SEALS	PTFE /GFT /CFT /GRAPHITE									1 SET	
5	GLAND SPACER	SS316									1	
6	BELLEVILLE WASHER	SPRING STEEL ZINC PLATED / STAINLESS STEEL									2	
7	LOCK WASHER	CARBON STEEL ZINC PLATED / STAINLESS STEEL									1	
8	GLAND NUT	SS 304									1	
9	SEAT	PTFE /GFT /CFT /TFM 1600/PEEK									2	
10	BALL	SS304/316			SS 304	SS304 L	SS316	SS316 L	Alloy 20	Monel	Hastelloy C	1
11	BODY 'O' TYPE SEAL	PTFE / GRAPHITE									1	
12	ADAPTOR	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	
13	GRUB SCREW	CARBON STEEL-HT									1	
14	STOPPER	CARBON STEEL ZINC PLATED / STAINLESS STEEL									1	
15	LEVER WITH PVC SLEEVE	CARBON STEEL POWDER COATED / STAINLESS STEEL									1	
16	LEVER NUT	CARBON STEEL ZINC PLATED / SS 304									1	
17	ANTISTATIC DEVICE	SS316									1 / 2	

**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.

**Body Seal :**

Body & End connector are male /female threaded and sealing is assure by PTFE flat or 'O' seal .

These design provides maximum safety for valves used for Vacuum, toxic gases and critical services where external leakage is not acceptable.

**Note:** In fire safe, Dual body seal arrangement of PTFE & Graphite provided.

**Anti-Static Device**

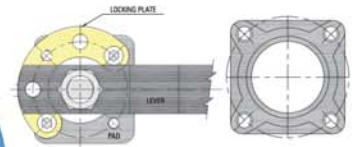
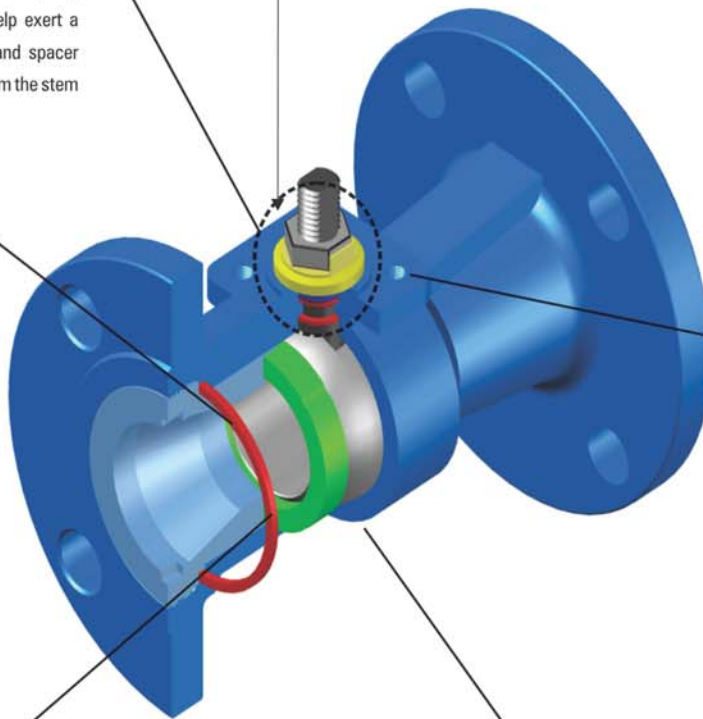
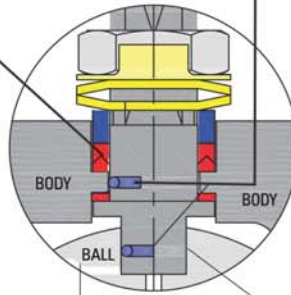
When static are generated due to high velocity of fluid and concentrated on the ball, the spring-loaded pins installed on stem are provided to ensure electrical continuity throughout the ball, stem & body.

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

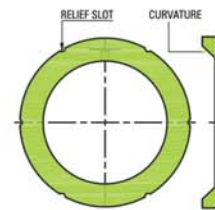
**Blow-out Proof Stem**

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.



**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.

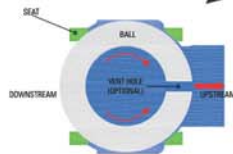


**Seat**

The special design seat feature relief slots or seat O.D. Clearance to relive 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)**

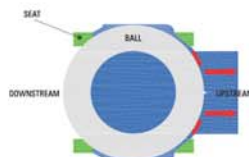
When the pressure inside the valve body cavity exceeds the line pressure due to thermal expansion of the liquids entrapped in the valve body; to relieve this vapor pressure positively vent hole is provided towards upstream that helps preventing seat life, reduces operational torque and chances of accidents.



**Floating Ball**

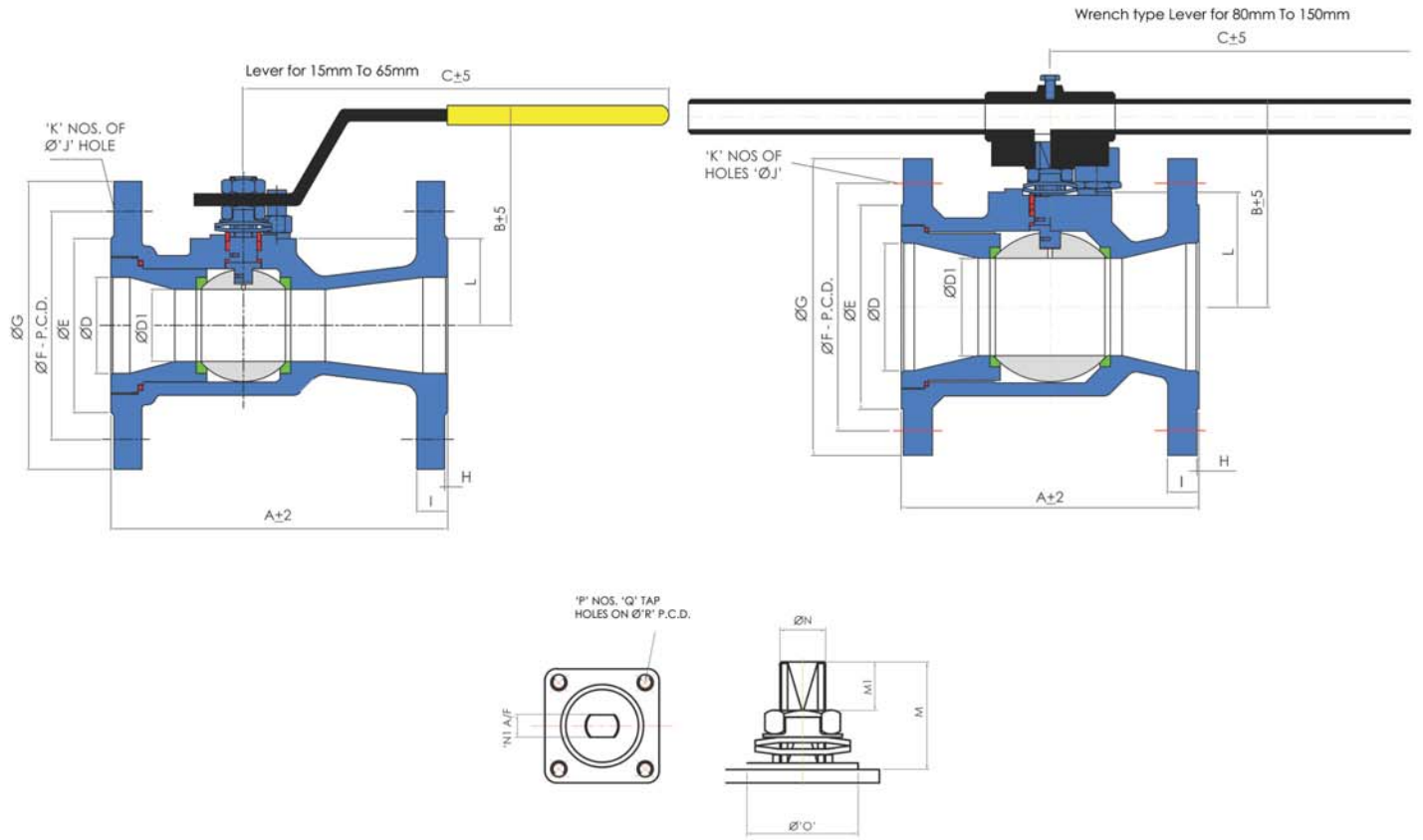
A Floating Ball design offer efficient bi-directional downstream sealing. When line pressure is applied to the closed ball, it moves slightly (or floats) downstream to maintain contact with the downstream seat where primary sealing occurs.

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.

# Dimension Chart



ALL DIMENSIONS ARE IN MM

VALVE SIZE	ISO PAD DETAILS													FLANGE DIMENSIONS							WEIGHT (KG)		
	A	B	C	Ø D	Ø D1	L	M	M1	Ø N	A/F N1	Ø O	P	Q	PCD Ø R	ISO 5211	Ø E	PCD Ø F	Ø G	H	I		Ø J	K
<b>REGULAR BORE, 150 CLASS</b>																							
15	108	80	156	12.7	12.7	29.5	15	10	11.1	6.3	25	4	M5	36	F03	35	60.3	90	2	10	15.9	4	2.2
20	118	80	156	19	12.7	29.5	15	10	11.1	6.3	25	4	M5	36	F03	42.9	69.9	100	2	11	15.9	4	1.8
25	127	83	156	25.4	19	33	17	10	11.1	6.3	30	4	M5	42	F04	50.8	79.4	110	2	11.6	15.9	4	2.4
40	165	103	180	38.1	31.7	44.5	22.5	12	12.7	7.9	35	4	M6	50	F05	73	98.4	125	2	14.7	15.9	4	4.2
50	178	116	225	50.8	38.1	46	32.7	14	14.3	9.5	35	4	M6	50	F05	92.1	120.4	150	2	16.3	19	4	7.2
65	190	125	245	63.5	50.8	60	34	15	17	11.1	55	4	M8	70	F07	104.8	139.7	180	2	17.9	19	4	17.6
80	203	135	270	75	63.5	75	32	15.5	17	11.1	55	4	M8	70	F07	127	152.4	190	2	19.5	19	4	14.5
100	229	161	335	98	75	88.5	40	20.5	23.8	15.8	70	4	M10	102	F10	157.2	190.5	230	2	24.3	19	8	32
150	267	196	335	148	98	108	45.5	21	28.6	19.05	70	4	M10	102	F10	215.9	241.3	280	2	25.9	22.2	8	52
<b>REGULAR BORE, 300 CLASS</b>																							
20	152	80	156	19	12.7	29.5	15.5	10	11.1	6.3	25	4	M5	36	F03	42.9	82.5	115	2	16.3	19	4	3.2
25	165	83	156	25.4	19	33	17	10	11.1	6.3	30	4	M5	42	F04	50.8	89	125	2	17.9	19	4	4
40	190	103	180	38.1	31.7	44.5	22.5	12	12.7	7.9	35	4	M6	50	F05	73	114.5	155	2	21.1	22.2	4	5.6
50	216	116	225	50.8	38.1	46	32.7	14	14.3	9.5	35	4	M6	50	F05	92.1	127	165.8	2	22.17	19	8	10.2
65	241	125	245	63.5	50.8	60	34	15	17	11.1	55	4	M8	70	F07	104.8	149.5	190	2	25.9	22.2	8	20
80	283	135	270	75	63.5	75	32	15.5	17	11.1	55	4	M8	70	F07	127	168.5	210	2	29	22.2	8	22.2
100	305	161	335	98	75	88.5	40	20.5	23.8	15.8	70	4	M10	102	F10	157.2	200	255	2	23.2	22.2	8	36
150	403	196	335	148	98	108	45.5	21	28.6	19.05	70	4	M10	102	F10	215.9	270	320	2	37	22.2	12	67