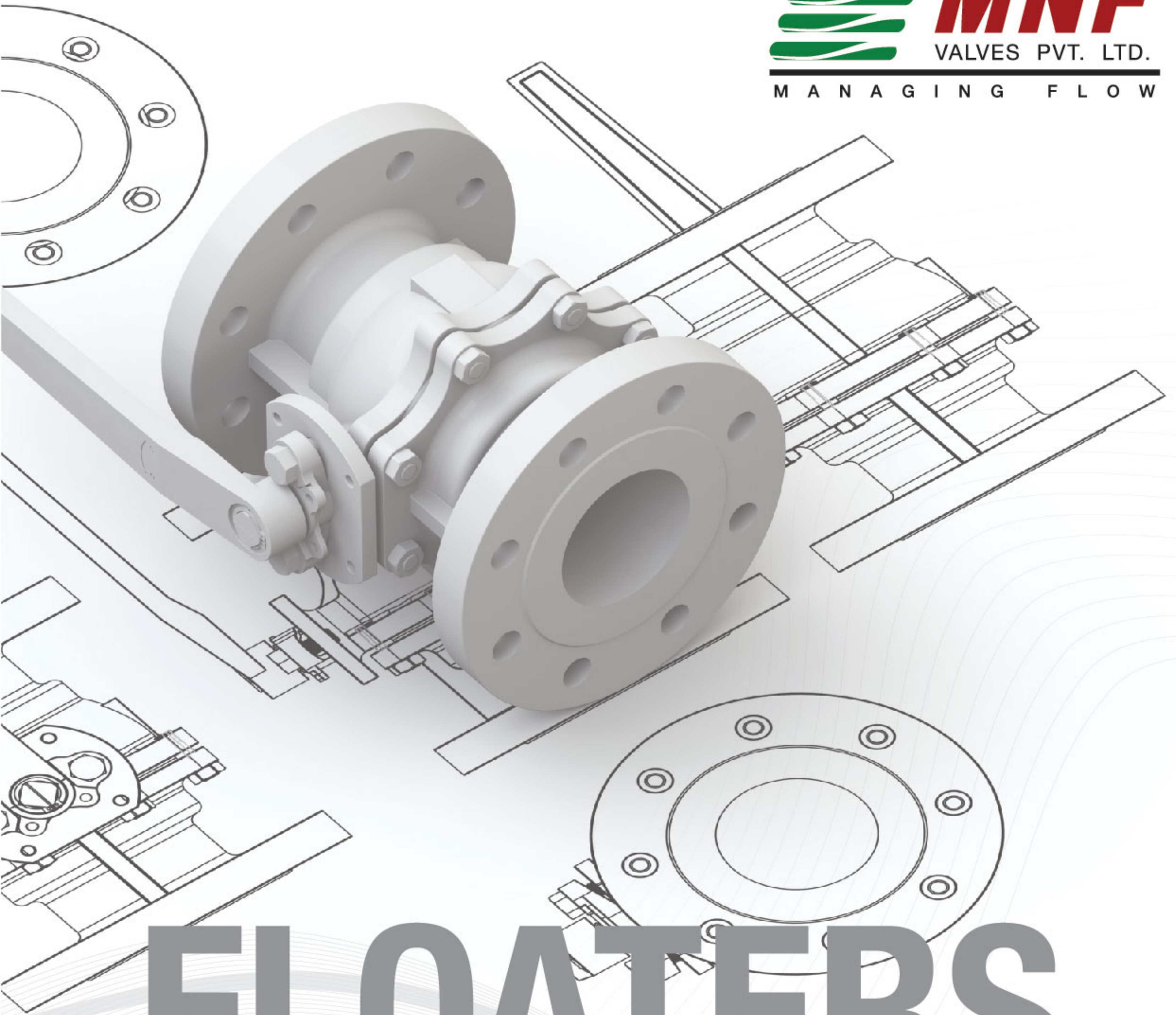
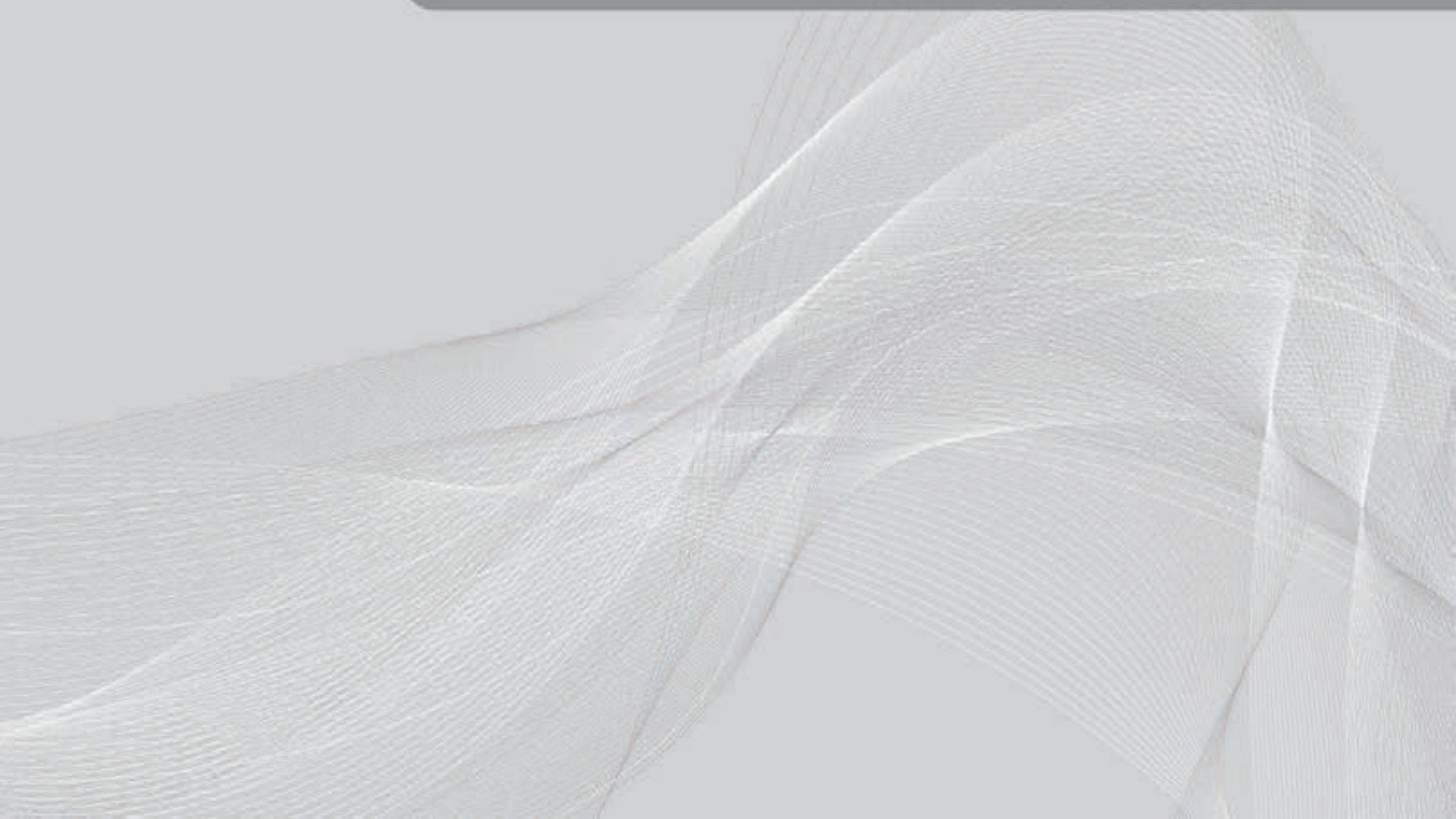




FLOATERS & TRUNNIONS

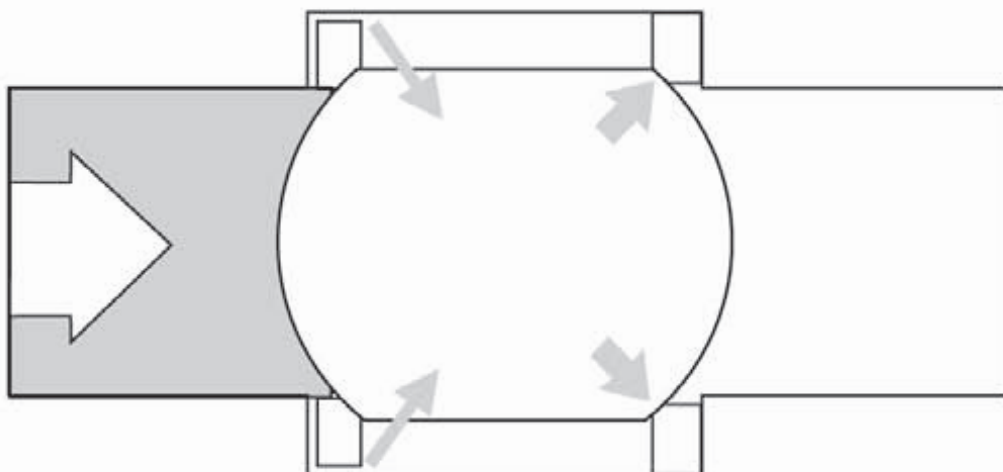
FLOATERS



DESIGN FEATURES

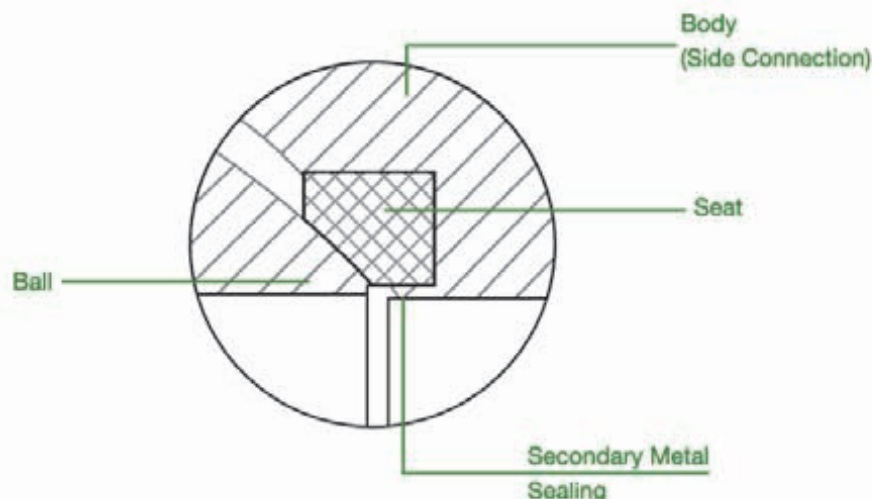
BUBBLETIGHT SEALING

Floating ball designs support the ball with two rigid PTFE seats secured in the valve body. One on upstream side, the other on the downstream side of the ball. The upstream pressure pushes the ball, which compresses the downstream side seat to completely shut off fluid flow. Greater the pressure means tighter the contact.



FIRE SAFE

BS 6755, API 607 and API 6FA are internationally recognized as the official standards for defining fire safe testing procedures and evaluation. Valves are provided with fire safe mechanism. Once the seat has burn out, the ball comes in close contact directly with the metal lip seat integral with the body or body adapter (side connection).

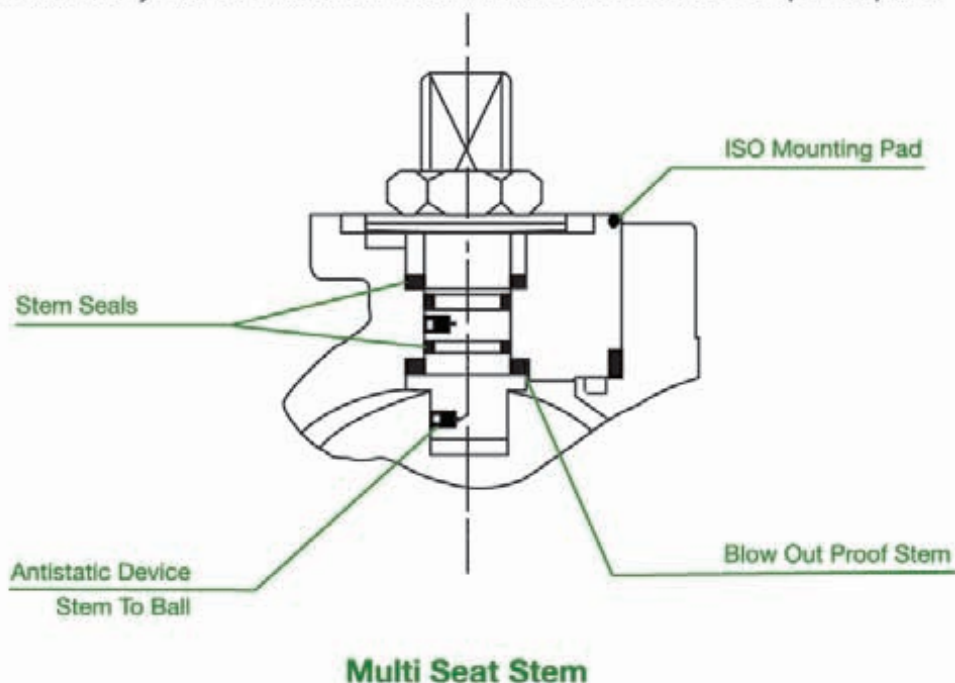


Fire Safe Design Details

DESIGN FEATURES

ANTI-STATIC DEVICE

If the fluid handled by the valve is flammable, the valve must be provided with an anti-static device which achieves electrical continuity between the ball, stem and the valve body. Our ball valves are fitted with the anti-static device upon request.



BLOW OUT PROOF STEM

This design ensures the valve stem cannot be blown out of the body in the event of the gland being removed while the valve is under pressure. To prevent stem blow out from body, the stem has a shoulder in the lower part and so constructs that it may not blow out upwards.

MIRROR FINISH SS BALLS

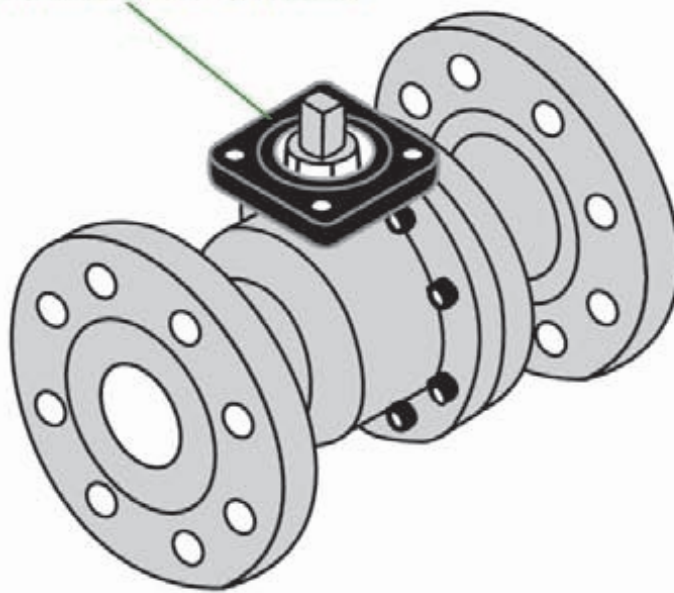
The stainless steel balls are manufactured to very close sphericity tolerances and are mirror-finished. This results in bubble-tight sealing and considerably reduced operating torque.

DESIGN FEATURES

ISO MOUNTING PAD

Valves are featured with an integral mounting pad on valves bodies in accordance with ISO – 5211.

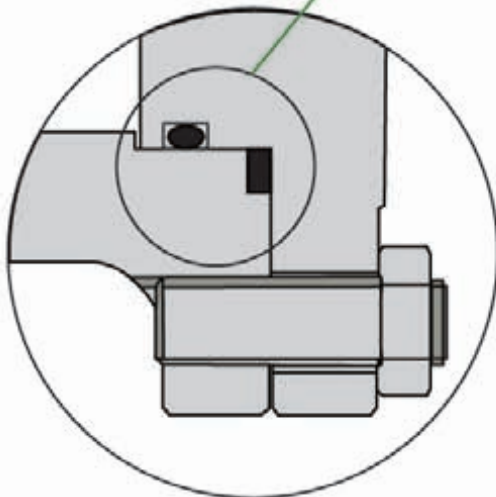
Ready for mounting with standard mounting hardware



BODY SEALING

Double body sealing design ensures positive body joint sealing in two piece construction valves.

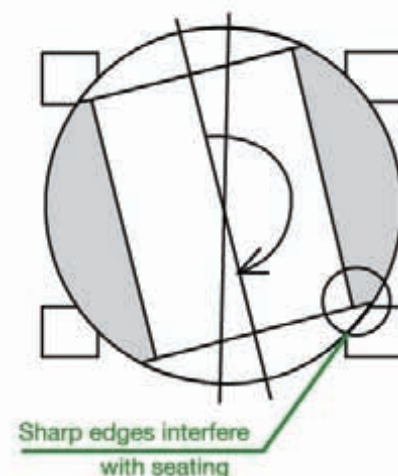
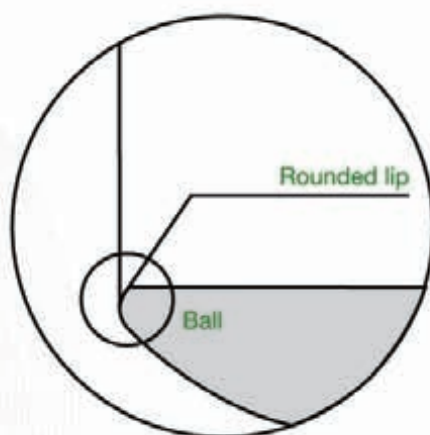
Double body sealing for effective sealing



DESIGN FEATURES

ROUNDED LIPS OF BALL PORT

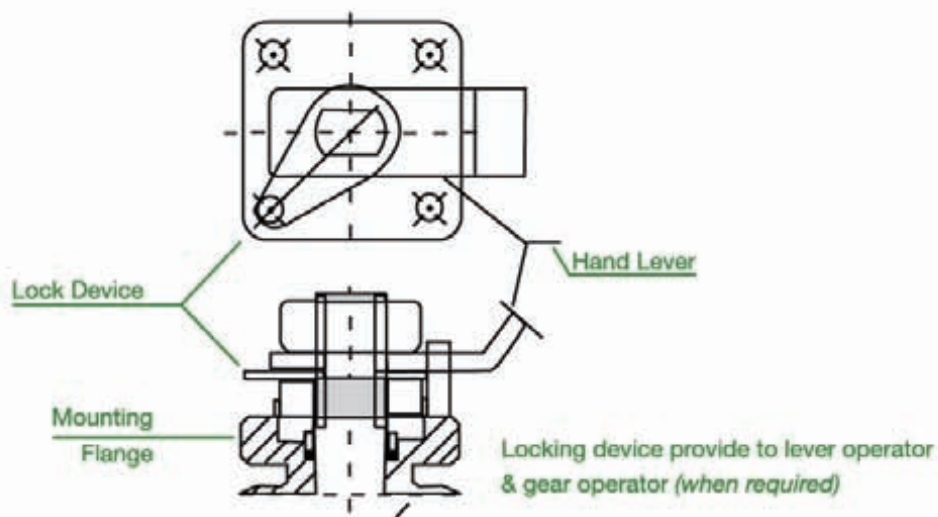
When the ball is rotated into the closed position the seating interference increases. To minimize that interference when the ball is in the open position, the lips around the ports of the ball are rounded.



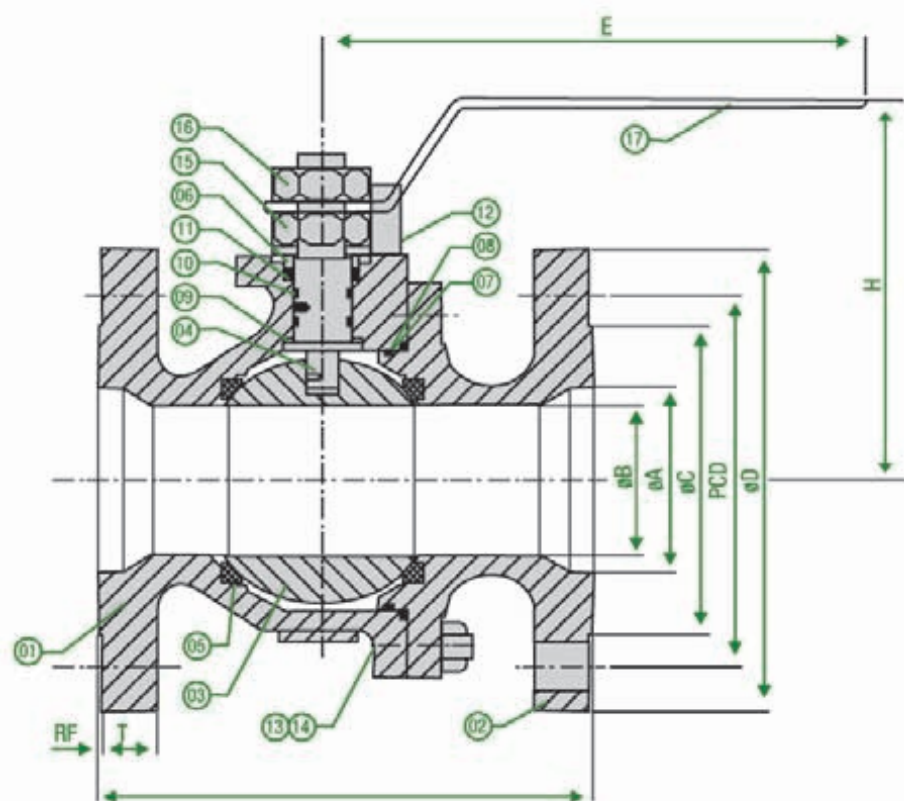
DOUBLE 'D' STEM TO LEVER CONNECTION

Stems are designed to have Double 'D' Connection at the top for Lever Fixing. This feature eliminates possibility of Lever Assembly in the wrong direction as the Lever indicates the Valve Position once installed on the line.

HANDLE LOCKING DEVICE



TWO PIECE DESIGN



ITEM	PART NAME	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
2	BODY ADAPTER	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
3	BALL	ASTM 351 Gr.CF8M / AISI 316	ASTM 351 Gr.CF8M / AISI 316
4	STEM	AISI 316	AISI 316
5	SEAT	R-PTFE	R-PTFE
6	GLAND	CARBON STEEL	STAINLESS STEEL
7	BODY GASKET	GRAPHITE	GRAPHITE
8	BODY SEAL	VITON O-RING	VITON O-RING
9	STEM GASKET	GFT	GFT
10	STEM SEAL	VITON O-RING	VITON O-RING
11	GLAND SEAL	GRAPHITE	GRAPHITE
12	STOPPER	CARBON STEEL	STAINLESS STEEL
13/14	STUD/NUT	A193 Gr.B7 / A194 Gr.2H	A193 Gr.B8 / A194 Gr.8
15	LOCK NUT	A194 Gr.2H	A194 Gr.8
16	STEM NUT	A194 Gr.2H	A194 Gr.8
17	HANDLE LEVER	CARBON STEEL	STAINLESS STEEL

NOTE: For other materials of construction, refer to table on rear cover page.

TWO PIECE - CLASS 150

DIMENSION DETAILS (Inches)

REDUCED PORT

	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
ØA	9	15	20	25	38	51	62	76	102	150
ØB	15	20	25	38	51	62	76	102	150	201
ØC	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9
ØD	90	100	110	125	150	180	190	230	280	345
PCD	60.3	69.9	79.4	98.4	120.7	139.7	152.4	190.5	241.3	298.5
E	104	180	180	210	210	290	290	450	450	990
H	60	93	98	127	147	178	185	220	245	273
L	108	117	127	165	178	190	203	229	267	292
T	9.6	11.2	12.7	15.9	17.5	20.7	22.3	22.3	23.9	27
N X Ød	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø19	8 X Ø19	8 X Ø23	8 X Ø23
WT (Kg) approx.	1.5	2.5	3.0	4.0	8.5	14	18	30	45	82
ISO 5211 MTG	F03	F05	F05	F05	F05	F07	F07	F10	F10	F12
TORQUE N-m	4	5	8	20	25	30	46	70	145	350

FULL PORT

	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
ØB	15	20	25	38	51	62	76	102	150	201
ØC	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9
ØD	90	100	110	125	150	180	190	230	280	345
PCD	60.3	69.9	79.4	98.4	120.7	139.7	152.4	190.5	241.3	298.5
E	180	180	210	210	290	290	400	450	990	-
H	93	98	127	147	178	185	220	245	273	-
L	108	117	127	165	178	190	203	229	267/ 394	292/ 457
T	9.6	11.2	12.7	15.9	17.5	20.7	22.3	22.3	23.9	27
N X Ød	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø19	8 X Ø19	8 X Ø23	8 X Ø23
WT (Kg) approx.	2.0	3.0	4.0	6.5	11	16	22	40	70 / 98	140 / 150
ISO 5211 MTG	F05	F05	F05	F05	F07	F07	F10	F10	F12	F14
TORQUE N-m	5	8	20	25	30	46	70	145	350	800

TWO PIECE - CLASS 300

DIMENSION DETAILS (Inches)

REDUCED PORT

	1/2"	3/4"	1"	1 1/2"	2	2 1/2"	3"	4"	6"	8"
ØA	9	15	20	25	38	51	62	76	102	150
ØB	15	20	25	38	51	62	76	102	150	201
ØC	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9
ØD	95	115	125	155	165	190	210	255	320	380
PCD	66.7	82.6	88.9	114.3	127	149.2	168.3	200	269.9	330.2
E	104	180	180	210	210	290	290	450	450	-
H	60	93	98	127	147	178	185	220	245	-
L	140.5	152	165	190	216	241	283	305	403	419
T	12.7	14.3	15.9	19.1	20.7	23.9	27	30.2	35	39.7
N X Ød	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø23	8 X Ø19	8 X Ø23	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25
WT (Kg) approx.	2.0	3.5	4.5	9.0	12.5	22	25	40	90	145
ISO 5211 MTG	F03	F05	F05	F05	F05	F07	F07	F10	F10	F14
TORQUE N-m	6	8	9	25	35	44	64	110	180	550

FULL PORT

	1/2"	3/4"	1"	1 1/2"	2	2 1/2"	3"	4"	6"	8"
ØB	15	20	25	38	51	62	76	102	150	201
ØC	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9
ØD	95	115	125	155	165	190	210	255	320	380
PCD	66.7	82.6	88.9	114.3	127	149.2	168.3	200	269.9	330.2
E	180	180	210	210	290	290	450	450	-	-
H	93	98	127	147	178	185	220	245	-	-
L	140.5	152	165	190	216	241	283	305	403	419/502
T	12.7	14.3	15.9	19.1	20.7	23.9	27	30.2	35	39.7
N X Ød	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø23	8 X Ø19	8 X Ø23	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25
WT (Kg) approx.	3.0	4.0	5.0	10	15	26	34	55	120	190 / 200
ISO 5211 MTG	F05	F05	F05	F05	F07	F07	F10	F10	F14	F14
TORQUE N-m	8	9	25	35	44	64	110	180	550	1000

TWO PIECE - CLASS 150

DIMENSION DETAILS (Inches)

REDUCED PORT

	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
ØA	0.35	0.59	0.79	0.98	1.50	2.01	2.44	2.99	4.02	5.91
ØB	0.59	0.79	0.98	1.50	2.01	2.44	2.99	4.02	5.91	7.91
ØC	1.37	1.69	2.00	2.87	3.63	4.13	5.00	6.19	8.50	10.63
ØD	3.54	3.94	4.33	4.92	5.91	7.09	7.48	9.06	11.02	13.58
PCD	2.37	2.75	3.13	3.87	4.75	5.50	6.00	7.50	9.50	11.75
E	4.09	7.09	7.09	8.27	8.27	11.42	11.42	17.72	17.72	38.98
H	2.36	3.66	3.86	5.00	5.79	7.01	7.28	8.66	9.65	10.75
L	4.25	4.61	5.00	6.50	7.01	7.48	7.99	9.02	10.51	11.50
T	0.38	0.44	0.50	0.63	0.69	0.81	0.88	0.88	0.94	1.06
N X Ød	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø19	8 X Ø19	8 X Ø23	8 X Ø23
WT (lbs) approx.	3.3	5.5	6.6	8.8	18.7	30.8	39.6	66	99	180.4
ISO 5211 MTG	F03	F05	F05	F05	F05	F07	F07	F10	F10	F12
TORQUE LB-IN	35.6	44.5	71.2	178	222.5	267	409.4	623	1290.5	3115

FULL PORT

	1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
ØB	0.59	0.79	0.98	1.50	2.01	2.44	2.99	4.02	5.91	7.91
ØC	1.37	1.69	2.00	2.87	3.63	4.13	5.00	6.19	8.50	10.63
ØD	3.54	3.94	4.33	4.92	5.91	7.09	7.48	9.06	11.02	13.58
PCD	2.37	2.75	3.13	3.87	4.75	5.50	6.00	7.50	9.50	11.75
E	7.09	7.09	8.27	8.27	11.42	11.42	15.75	17.72	38.98	-
H	3.66	3.86	5.00	5.79	7.01	7.28	8.66	9.65	10.75	-
L	4.25	4.61	5.00	6.50	7.01	7.48	7.99	9.02	10.51/15.51	11.49/17.99
T	0.38	0.44	0.50	0.63	0.69	0.81	0.88	0.88	0.94	1.06
N X Ød	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø19	8 X Ø19	8 X Ø23	8 X Ø23
WT (lbs) approx.	4.4	6.6	8.8	14.3	24.2	35.2	48.4	88	154 / 215	308 / 330
ISO 5211 MTG	F05	F05	F05	F05	F07	F07	F10	F10	F12	F14
TORQUE LB-IN	44.5	71.2	178	222.5	267	409.4	623	1290.5	3115	7120

TWO PIECE - CLASS 300

DIMENSION DETAILS (Inches)

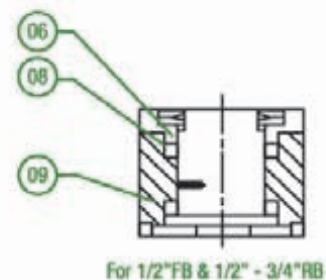
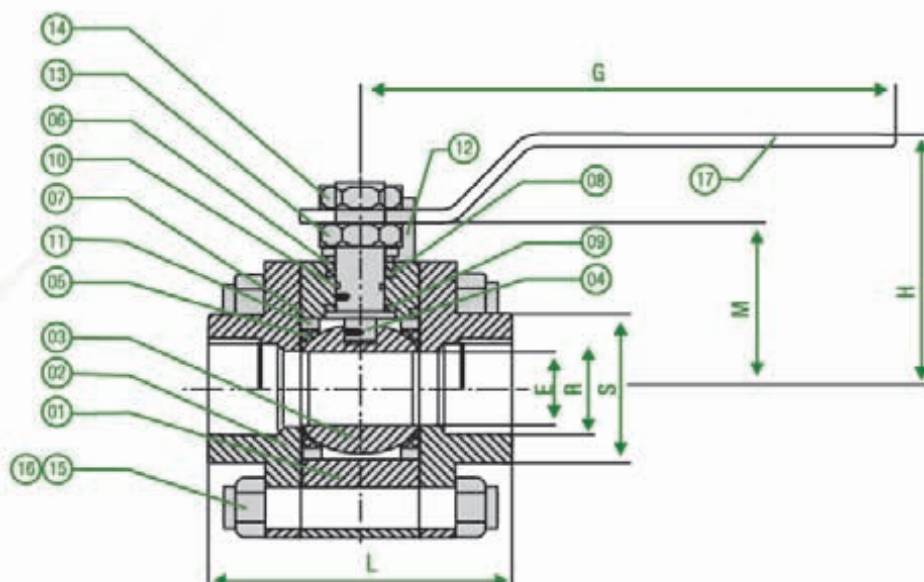
REDUCED PORT

	1/2"	3/4"	1"	1 1/2"	2	2 1/2"	3"	4"	6"	8"
ØA	0.35	0.59	0.79	0.98	1.50	2.01	2.44	2.99	4.02	5.91
ØB	0.59	0.79	0.98	1.50	2.01	2.44	2.99	4.02	5.91	7.91
ØC	1.37	1.69	2.00	2.87	3.63	4.13	5.00	6.19	8.50	10.63
ØD	3.74	4.53	4.92	6.10	6.50	7.48	8.27	10.04	12.60	14.96
PCD	2.63	3.25	3.50	4.50	5.00	5.87	6.63	7.87	10.63	13.00
E	4.09	7.09	7.09	8.27	8.27	11.42	11.42	17.72	17.72	-
H	2.36	3.66	3.86	5.00	5.79	7.01	7.28	8.66	9.65	-
L	5.53	5.98	6.50	7.48	8.50	9.49	11.14	12.01	15.87	16.50
T	0.50	0.56	0.63	0.75	0.81	0.94	1.06	1.19	1.38	1.56
N X Ød	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø23	8 X Ø19	8 X Ø23	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25
WT (lbs) approx.	4.4	7.7	9.9	19.8	27.5	48.4	55	88	198	319
ISO 5211 MTG	F03	F05	F05	F05	F05	F07	F07	F10	F10	F14
TORQUE LB-IN	53.4	71.2	80.1	222.5	311.5	391.6	569.6	979	1602	4895

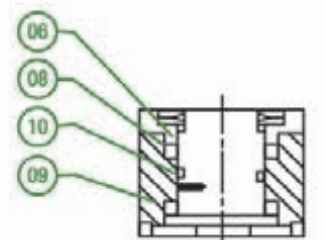
FULL PORT

	1/2"	3/4"	1"	1 1/2"	2	2 1/2"	3"	4"	6"	8"
ØB	0.59	0.79	0.98	1.50	2.01	2.44	2.99	4.02	5.91	7.91
ØC	1.37	1.69	2.00	2.87	3.63	4.13	5.00	6.19	8.50	10.63
ØD	3.74	4.53	4.92	6.10	6.50	7.48	8.27	10.04	12.60	14.96
PCD	2.63	3.25	3.50	4.50	5.00	5.87	6.63	7.87	10.63	13.00
E	7.09	7.09	8.27	8.27	11.42	11.42	17.72	17.72	-	-
H	3.66	3.86	5.00	5.79	7.01	7.28	8.66	9.65	-	-
L	5.53	5.98	6.50	7.48	8.50	9.49	11.14	12.01	15.87	16.49/19.76
T	0.50	0.56	0.63	0.75	0.81	0.94	1.06	1.19	1.38	1.56
N X Ød	4 X Ø16	4 X Ø19	4 X Ø19	4 X Ø23	8 X Ø19	8 X Ø23	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25
WT (lbs) approx.	6.6	8.8	11	22	33	57.2	74.8	121	264	418 / 440
ISO 5211 MTG	F05	F05	F05	F05	F07	F07	F10	F10	F14	F14
TORQUE LB-IN	71.2	80.1	222.5	311.5	391.6	569.6	979	1602	4895	8900

THREE PIECE DESIGN - CLASS 800



For 1/2"FB & 1/2" - 3/4"RB



For 3/4" - 2"FB & 1" - 2"RB

ITEM	PART NAME	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
2	BODY ADAPTER	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
3	BALL	ASTM 351 Gr.CF8M / AISI 316	ASTM 351 Gr.CF8M / AISI 316
4	STEM	AISI 316	AISI 316
5	SEAT	R-PTFE	R-PTFE
6	GLAND	CARBON STEEL	STAINLESS STEEL
7	BODY GASKET	GRAPHITE	GRAPHITE
8	GLAND SEAL	GRAPHITE	GRAPHITE
9	STEM GASKET	GFT	GFT
10	STEM O-RING	VITON O-RING	VITON O-RING
11	RETAINER RING	CARBON STEEL	STAINLESS STEEL
12	STOPPER	CARBON STEEL	STAINLESS STEEL
13	LOCK NUT	A194 Gr.2H	A194 Gr.8
14	STEM NUT	A194 Gr.2H	A194 Gr.8
15 / 16	STUD / NUT	A193 Gr.B7 / A194 Gr.2H	A193 Gr.B8 / A194 Gr.8
17	HANDLE LEVER	CARBON STEEL	STAINLESS STEEL

THREE PIECE - CLASS 800

DIMENSION DETAILS (Inches)

	1/2"F	1/2"R	3/4"F	3/4"R	1"F	1"R	1 1/4"F	1 1/4"R	1 1/2"F	1 1/2"R	2"FB	2"R
E	15	9	20	15	25	20	32	25	38	32	51	38
R	21.8	21.8	27.4	27.4	34.1	34.1	42.7	42.7	49	49	61	61
S	30	30	44	36	50	44	56	56	64	62	77	73
L	70	60	86	80	102	92	112	108	120	112	140	132
G	140	110	140	140	180	140	180	180	200	180	250	200
H	84	47	75	84	85	75	90	85	100	90	120	100
M	38	27	46	37	56	46	60	56	66	60	80	66
WT (Kg)	1.9	1.1	2.8	2	5.1	3	7.0	5.5	9.2	7.3	16.7	12.9

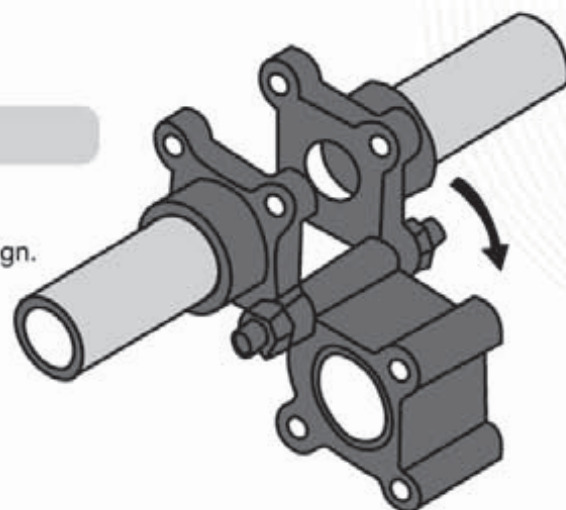
	1/2"F	1/2" R	3/4"F	3/4"R	1"F	1"R	1 1/4"F	1 1/4"R	1 1/2"F	1 1/2"R	2"F	2"R
E	0.59	0.35	0.79	0.59	0.98	0.79	1.26	0.98	1.50	1.26	2.01	1.50
R	0.86	0.86	1.08	1.08	1.34	1.34	1.68	1.68	1.93	1.93	2.40	2.40
S	1.18	1.18	1.73	1.42	1.97	1.73	2.20	2.20	2.52	2.44	3.03	2.87
L	2.76	2.36	3.39	3.15	4.02	3.62	4.40	4.25	4.72	4.41	5.51	5.20
G	5.51	4.33	5.51	5.51	7.09	5.51	7.09	7.09	7.87	7.09	9.84	7.87
H	3.31	1.85	2.95	3.31	3.35	2.95	3.54	3.34	3.94	3.54	4.72	3.94
M	1.50	1.06	1.81	1.46	2.20	1.81	2.36	2.20	2.60	2.36	3.15	2.60
WT (Kg)	4.18	2.42	6.16	4.40	11.22	6.60	15.4	12.1	20.24	16.06	36.74	28.38

Note: F – FULL BORE; R – REDUCED BORE

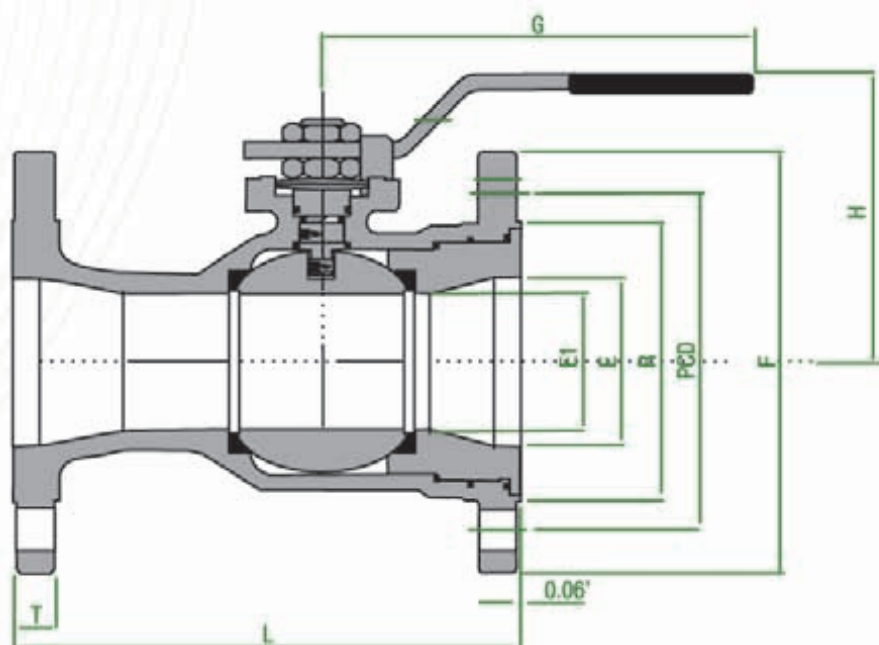
SWING OUT DESIGN

Swing out design is simple for installation and easy for maintenance.

As illustrated it is economical in-line maintenance because of swing out design.



ONE PIECE DESIGN - CLASS 150



DIMENSION DETAILS (mm)

REDUCED PORT

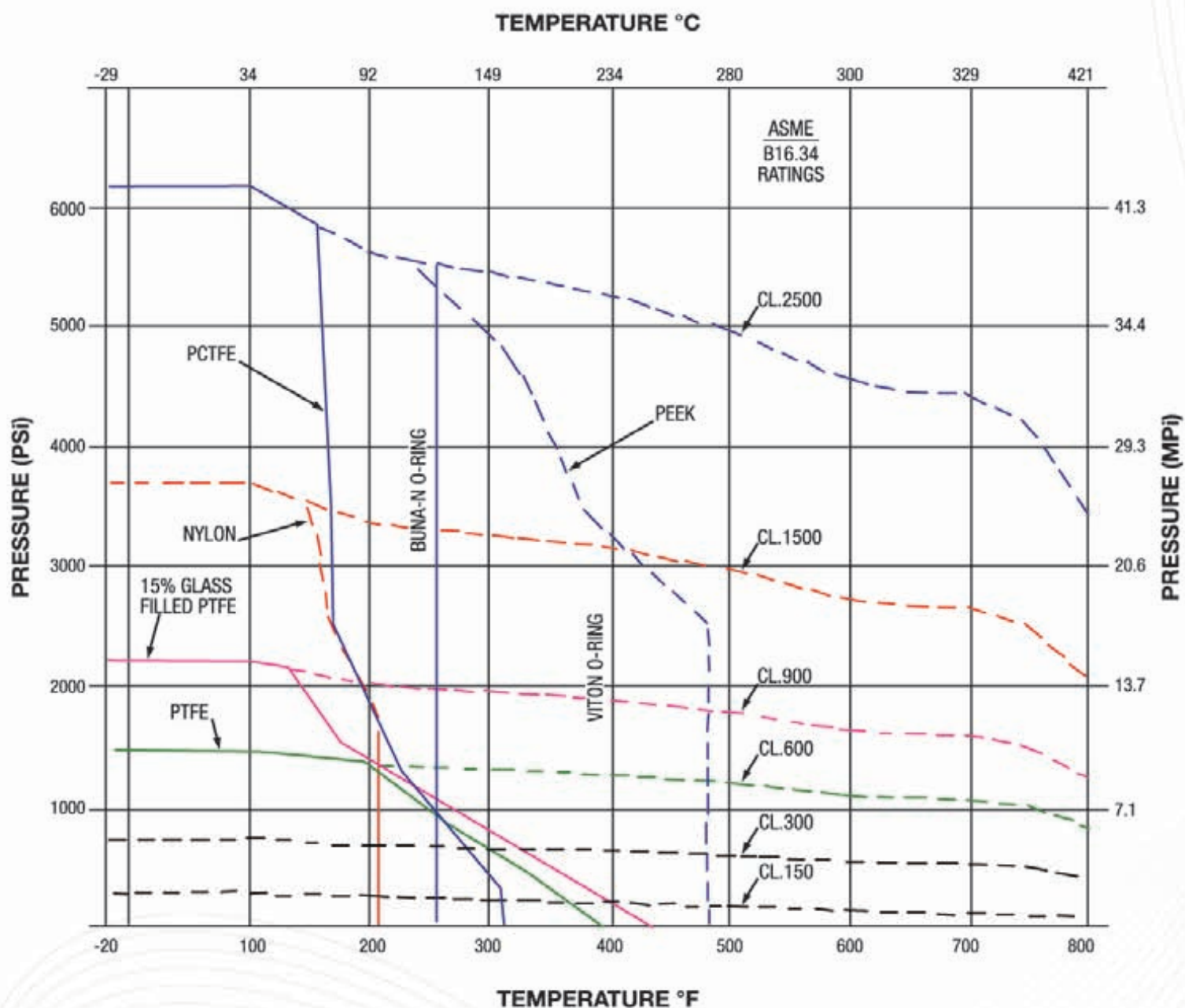
	1/2"	3/4"	1"	1 1/2"	2"
E1	9	15	20	25	38
E	15	20	25	38	51
R	34.9	42.9	50.8	73	92.1
F	90	100	110	125	150
PCD	60.3	69.9	79.4	98.4	120.7
G	104	180	180	210	210
H	60	93	98	127	147
L	108	117	127	165	178
T	11.2	12.8	14.3	17.5	19.1
N X Ød	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø16	4 X Ø19
WT (kg)	7.0	8.0	9.0	12	15
ISO 5211	F03	F05	F05	F05	F05
MTG					
TORQUE	4	5	8	20	25
N-m					

DIMENSION DETAILS (Inches)

	1/2"	3/4"	1"	1 1/2"	2"
E1	0.35	0.59	0.79	0.98	1.50
E	0.59	0.79	0.98	1.50	2.01
R	1.37	1.69	2.00	2.87	3.63
F	3.54	3.94	4.33	4.92	5.91
PCD	2.37	2.75	3.13	3.87	4.75
G	4.09	7.09	7.09	8.27	8.27
H	2.36	3.66	3.86	5.00	5.79
L	4.25	4.61	5.00	6.50	7.01
T	0.44	0.50	0.56	0.69	0.75
N X Ød	4 X Ø0.62	4 X Ø0.62	4 X Ø0.62	4 X Ø0.62	4 X Ø0.74
WT (lbs)	15.4	17.6	19.8	26.4	33
ISO 5211	F03	F05	F05	F05	F05
MTG					
TORQUE	35.6	44.5	71.2	178	222.5
LB-IN					

PRESSURE TEMPERATURE RATING

SEAT & SEALS



MATERIAL OF CONSTRUCTION

PART NAME	MATERIAL SPECIFICATION
BODY	A216 Gr.WCB / A105 / A352 Gr. LCB / A 352 LF2 / A351 Gr. CF8M / A351 Gr. CF8 / A351 Gr. CF3M / A351 Gr. CF3
BODY ADAPTER	A216 Gr.WCB / A105 / A352 Gr. LCB / A 352 LF2 / A351 Gr. CF8M / A351 Gr. CF8 / A351 Gr. CF3M / A351 Gr. CF3
BALL	A182 F316 / A351 Gr. CF8M / A351 Gr. CF8 / A351 Gr. CF3M / A351 Gr. CF3
STEM	A182 F316 / A182 F304 / A479 SS316 / A479 SS304 / MONEL
SEAT	PTFE / RPTFE / DEVLON / NYLON / PEEK
GLAND	A182 F316 / A182 F304 / A479 SS316 / A479 SS304
BODY GASKET	GRAPHITE / PTFE / RPTFE
BODY SEAL	VITON
GLAND GASKET	GRAPHITE
STEM GASKET	PTFE / GFT
STEM SEAL	VITON
RETAINER RING	STAINLESS STEEL / CARBON STEEL
STOPPER	STAINLESS STEEL / CARBON STEEL / MS
STUD / BOLT	A193 Gr. B7 / A193 Gr. B7M / A320 Gr. L7 / A320 Gr. L7M / A193 Gr. B8 / A193 Gr. B8M
NUT	A194 Gr.2H / A194 Gr.2HM / A194 Gr.7 / A194 Gr.7M / A194 Gr.8 / A194 Gr.8M
HANDLE LEVER	STAINLESS STEEL / CARBON STEEL / MS (ZINC PLATED)

- Other materials are available on application.
- Material confirming to NACE standard can be supplied on request.

PRODUCT ORDERING CODE SYSTEM

DESIGN	
F	FLOATER
T	TRUNNION

CONSTRUCTION	
1	SINGLE PIECE
2	TWO PIECE
3	THREE PIECE

BORE	
F	FULL BORE
R	REDUCED BORE

CLASS	
10	#150
30	#300
40	#400
60	#600
80	#800
90	#900
50	#1500
20	#2500
00	Others

END CONNECTION	
RF	Raise Face Flanged End
FF	Flat Face Flanged End
RT	RTG Face Flanged End
WE	Welded End
SC	Screwed End

BODY MATERIAL	
01	WCB
02	LCB
03	CF8M
04	Alloy
00	Others

SEAT MATERIAL	
T	T- PTFE
R	R - RPTFE
P	PEEK
O	OTHERS

BALL MATERIAL	
S	SS 316
A	A105
M	MONEL
W	WCB
O	OTHERS

OPERATER	
B	Bare Stem
L	Lever
G	Gear
A	Actuator
O	Others

SPECIAL	
SE	Stem Extension
SP	Short Pattern
LP	Long Pattern
XX	Special Requirement

SIZE (Inch)	
A	1/4
B	1/2
C	3/4
D	1
E	1 1/4
F	1 1/2
G	2
H	2.5
J	3
K	4
L	5
M	6
N	8
P	10
Q	12

Example	
F-2-R-10-RF-01-R-S-L-G-LP	
F	FLOATER
2	TWO PIECE
R	REDUCED BORE
10	#150 CLASS
RF	RAISE FACE FLANGED END
01	WCB BODY
R	R-PTFE SEAT
S	SS316 BALL
L	LEVER OPERATED
G	2" VALVE SIZE
LP	LONG PATTERN

TRUNNNIONS

TRUNNION MOUNTED BALL VALVES

MNF Trunnion Mounted Ball Valves have been designed for severe service and generally used in the Petrochemical, Refining, Upstream Oil and Gas, Power and Chemical applications. The designs incorporate many features which ensure reliable and repeatable shut off performance whilst providing the highest levels of safety as demanded by these Industries.

FEATURES

- 1 Design and manufacture conform to ASME B16.34/ API 6D/ ISO14313/ SECTION VIII
- 2 Full and reduced bore valve available
- 3 Body valve thickness is according to ASME B16.34, as a minimum
- 4 Anti-blow-out bottom entry stem
- 5 High integrity stem sealing system prevents atmospheric leakage
- 6 Anti-static stem design
- 7 Fire safe valve design
- 8 Bi-directional valves
- 9 Available with locking device (*when required*)
- 10 Available with pneumatic, hydraulic, or electric actuators (*when required*)

TECHNICAL SPECIFICATIONS

Body Material: Carbon Steel, Stainless Steel, Duplex , Inconel 625, and other special alloys. (*Material conforming to NACE MR-01-75, when required*)

Temp. Range: -29°C to +200°C

Design: BS 5351 / API 6D / ASME B16.34 / ASME Section VIII.

Face to Face: ASME B16.10 / API 6D

End Connection: Flanged to ASME B16.5, Butt Weld End to ASME B16.25

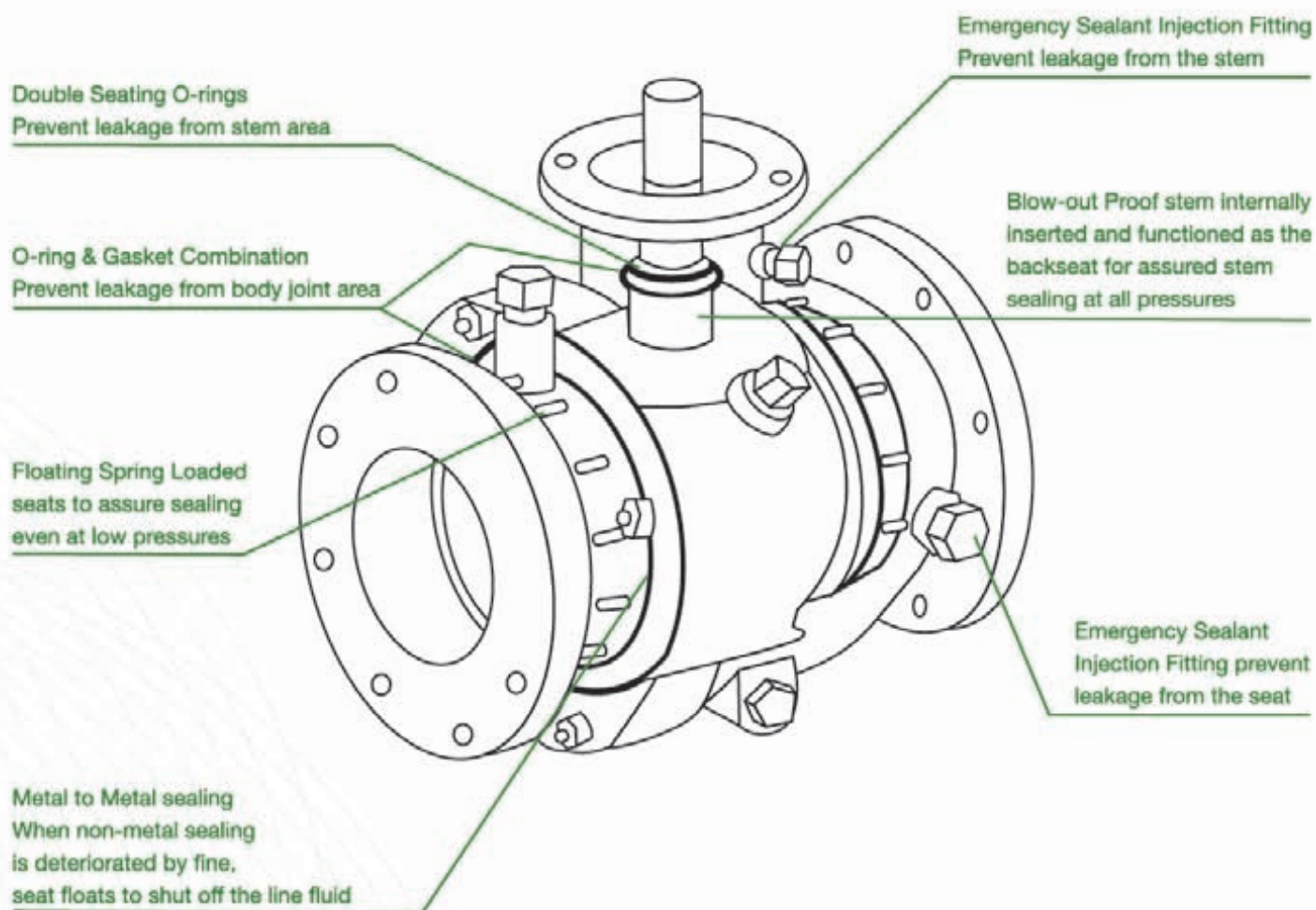
Fire Testing: API 607 4th Edition / BS 6755-II / API 6FA

Pressure Testing: API 598 / BS EN 12266-I / API 6D

SIZE RANGE

DESIGN TYPE	END TYPE	PORT	CLASS	SIZE (Inch)				
				2	3	4	6	8
Two Piece	Flanged	FB/ RB	150	✓	✓	✓	✓	✓
		FB/ RB	300	✓	✓	✓	✓	✓

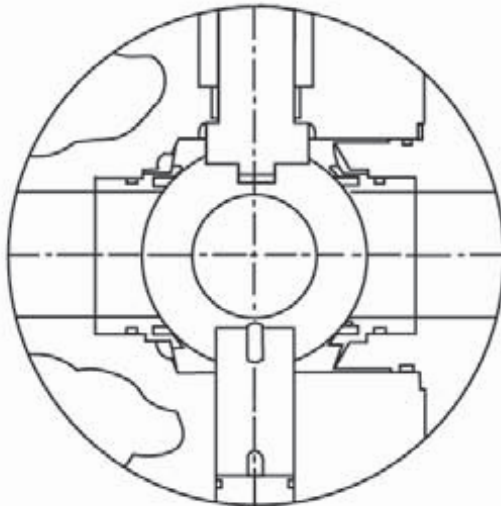
FB - FULL BORE



DESIGN FEATURES

TRUNNION MOUNTED CONSTRUCTION

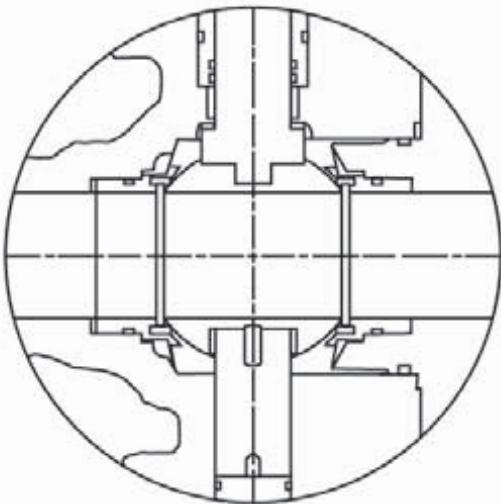
The trunnion mounted ball with its floating seat rings allows easy and smooth operation even at high pressures. The differential load, produced by line pressure acting on the ball, is carried by the stem and trunnion bearings. These self lubricating, PTFE coated bearings maintain low operating torque and maximizes service life.



DOUBLE BLOCK & BLEED

MNF ball valve upstream and downstream positive sealing system allows for installation in services requiring a double block and bleed facility for bleeding of the cavity or checking of the sealing integrity in the open or closed position.

When fitted, bleed valves or anti-blow-out vent & drain plugs may be opened to check seat integrity with the main valve in either the open or closed position. Since there is no leak path from the pipeline to the body cavity other than via the seats or seat seals, bleeding the body cavity will indicate any leakage. Seat / seal integrity may therefore be checked PRIOR to affecting a pipeline shutdown.



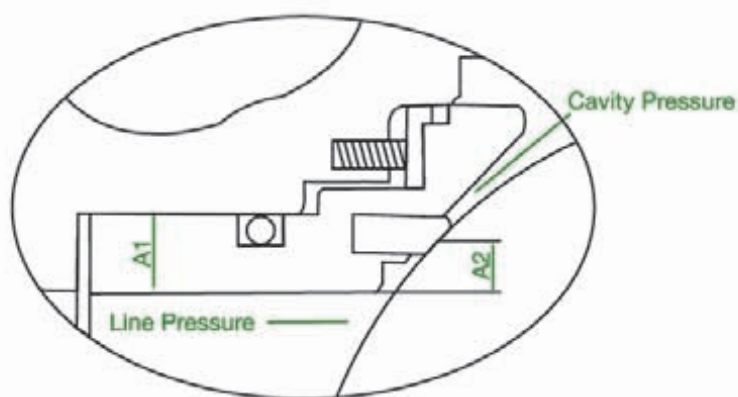
DESIGN FEATURES

PRESSURE ASSISTED SEALING

The high pressure side seal is formed by the seat ring assembly being pressure energized against ball as a result of the single piston action created by the line pressure.

SPRING ASSISTED SEALING

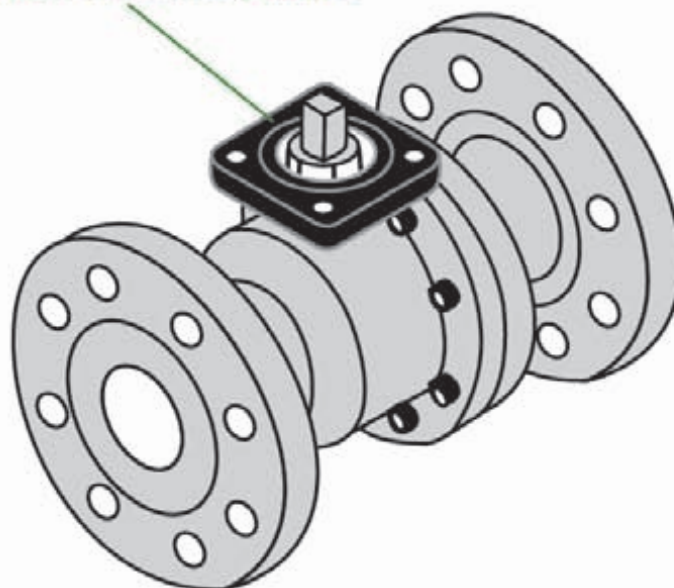
Live loading of the seat rings by springs assures sealing capability at low pressures.



ISO MOUNTING PAD

Valves are featured with an integral mounting pad on valves bodies in accordance with ISO – 5211.

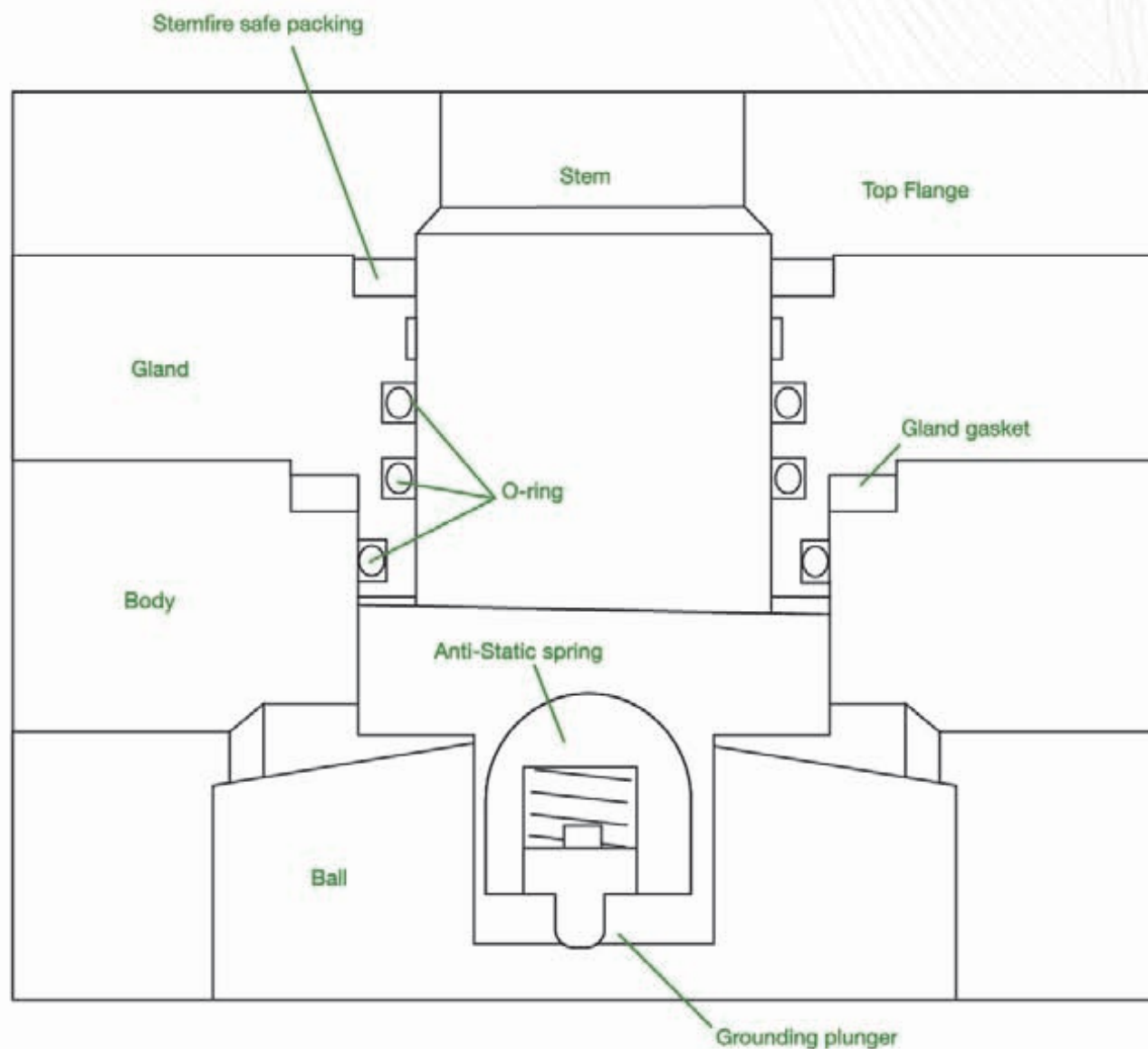
Ready for mounting with standard mounting hardware



DESIGN FEATURES

ANTI-BLOW-OUT STEM

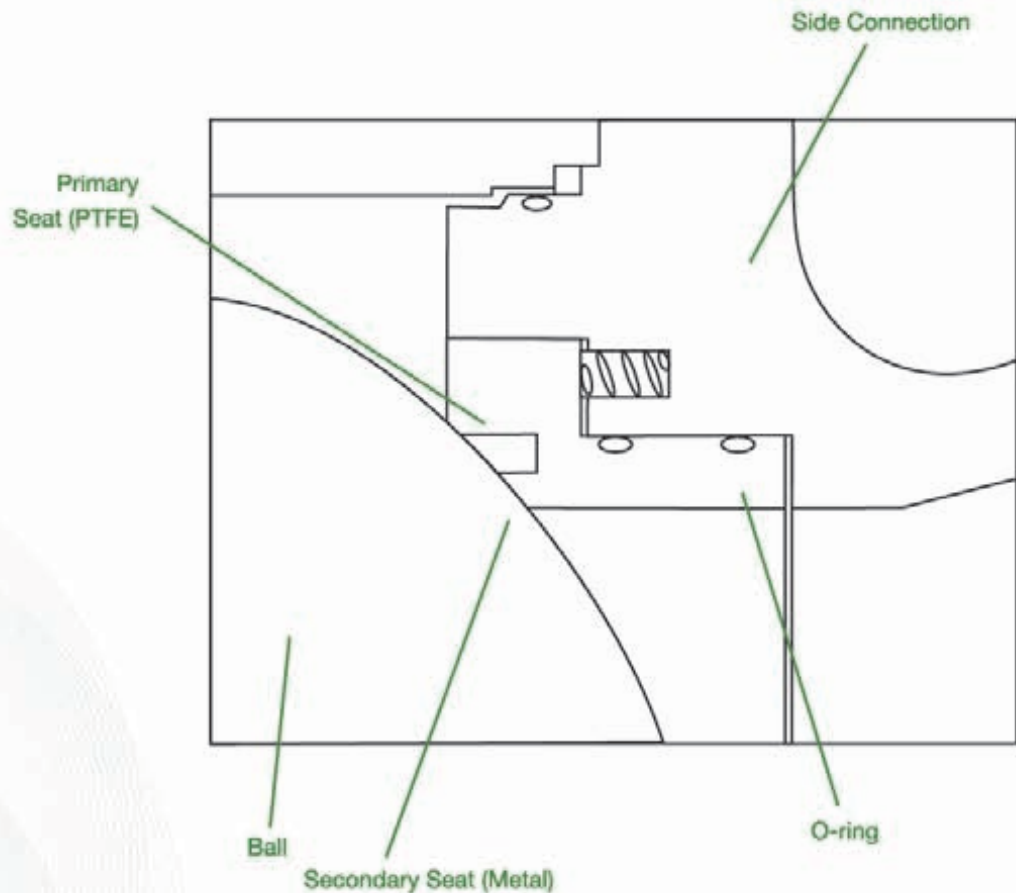
The stem is of a one piece bottom entry shouldered to body design as standard. No portion of the stem relies on any intermediate part of the body bonnet or cover or gland for its final positioning or anti-blow-out feature and the weakest point of the stem is outside of the pressure boundary.



DESIGN FEATURES

FIRE SAFE DESIGN

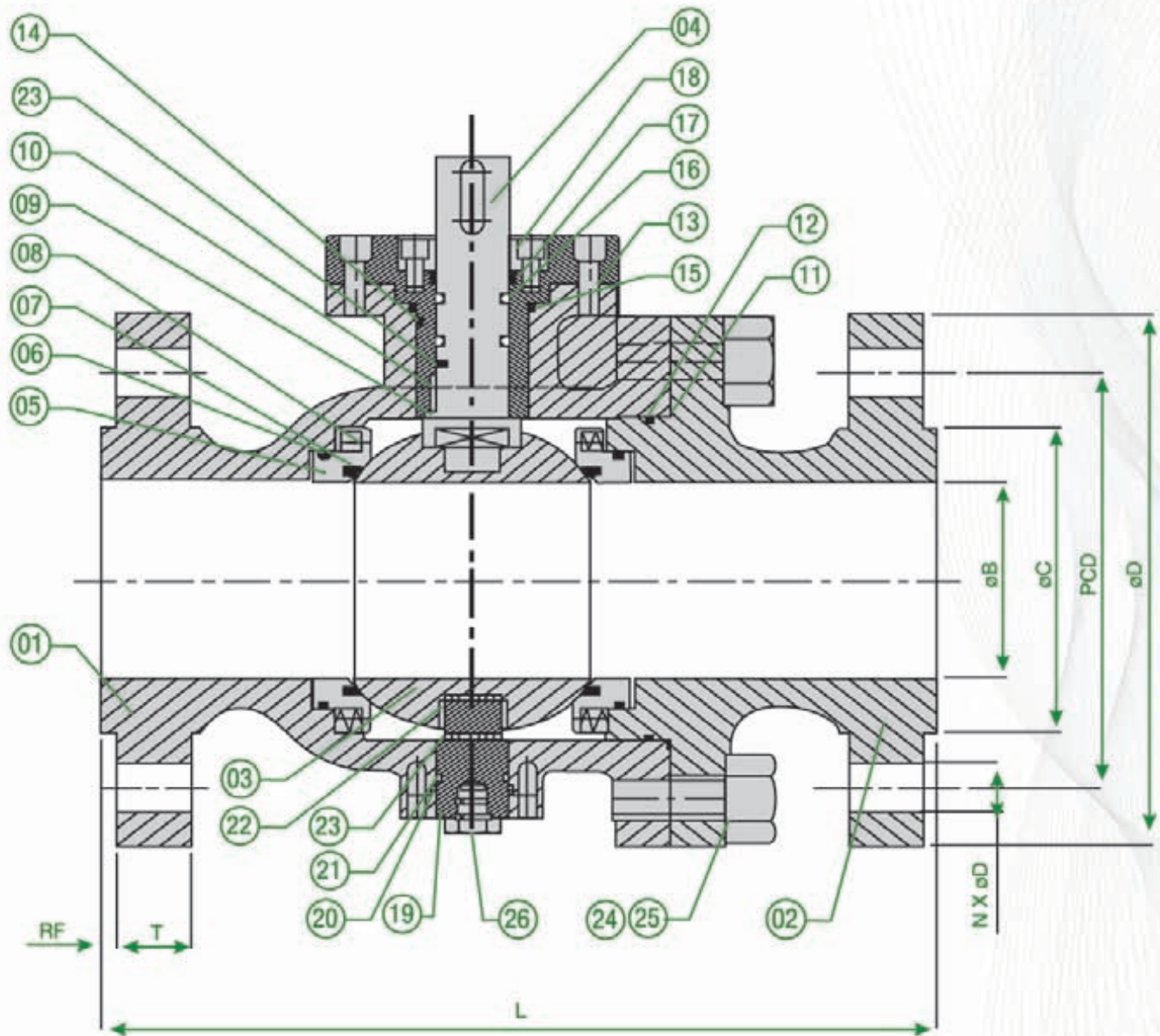
Fire safe design has dual sealing, in case of fire the primary seat (PTFE) will get damaged & the secondary seat (metal) will come in contact with ball to prevent leakage.



ANTI-STATIC DEVICE

Antistatic device is a standard feature of MNF ball valve. A spring-loaded pin assures the electrical continuity, between ball, stem and body, so as to avoid sparks during turning of the stem to open and close the valve, which could be dangerous in case of hazardous area installation.

TWO PIECE DESIGN



BILL OF MATERIAL

ITEM	PART NAME	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
2	BODY ADAPTER	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
3	BALL	ASTM 351 Gr.CF8M / AISI 316	ASTM 351 Gr.CF8M / AISI 316
4	STEM	AISI 316	AISI 316
5	SEAT RING	AISI 316	AISI 316
6	SEAT O RING	VITON	VITON
7	SEAT INSERT	PTFE	PTFE
8	SEAT SPRING	A313 SS316 / SS302 / INCONEL718	A313 SS316 / SS302 / INCONEL718
9	STEM GASKET	GFT	GFT
10	STEM BEARING	PTFE+SS316	PTFE+SS316
11	BODY GASKET	GRAPHITE	GRAPHITE
12	BODY O RING	VITON	VITON
13	STEM HOUSING	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
14	S.H. O RING	VITON	VITON
15	S.H. GASKET	GRAPHITE	GRAPHITE
16	STEM O RING	VITON	VITON
17	STEM GASKET	GRAPHITE	GRAPHITE
18	GLAND	ASTM A105	AISI 316
19	TRUNNION	ASTM A105 / A216 Gr. WCB	ASTM 351 Gr.CF8M / AISI 316
20	TRUNNION GASKET	GRAPHITE	GRAPHITE
21	TRUNNION O RING	VITON	VITON
22	TRUNNION BEARING	PTFE+SS316	PTFE+SS316
23	ANTI STATIC SPRING	A313 SS316	A313 SS316
24 / 25	STUD / NUT	A193 Gr.B7 / A194 Gr.2H	A193 Gr.B8 / A194 Gr.8
26	DRAIN PLUG	CARBON STEEL	STAINLESS STEEL

NOTE: Other materials are available on application
Material confirming to NACE standard can be supplied on request

TWO PIECE - CLASS 300

DIMENSION DETAILS (mm)

FULL PORT

	DN 50	DN 80	DN 100	DN 150	DN 200
ØB	51	76	102	150	201
ØC	92.1	127	157.2	215.9	269.9
ØD	165	210	255	320	380
PCD	127	168.3	200	269.9	330.2
L	216	283	305	403	419/502
T	20.7	27	30.2	35	39.7
N X Ød	8 X Ø19	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25

DIMENSION DETAILS (INCH)

FULL PORT

	2"	3"	4"	6"	8"
ØB	2.01	2.99	4.02	5.91	7.91
ØC	3.63	5.00	6.19	8.50	10.63
ØD	6.50	8.27	10.04	12.60	14.96
PCD	5.00	6.63	7.87	10.63	13.00
L	8.50	11.14	12.01	15.87	16.5/19.7
T	0.81	1.06	1.19	1.38	1.56
N X Ød	8 X Ø19	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25

TWO PIECE - CLASS 600

DIMENSION DETAILS (mm)

FULL PORT

	DN 50	DN 80	DN 100	DN 150	DN 200
ØB	51	76	102	150	201
ØC	92.1	127	157.2	215.9	269.9
ØD	165	210	275	355	420
PCD	127	168.3	215.9	292.1	349.2
L	292	256	432	559	660
T	25.4	31.8	38.1	47.7	55.6
N X Ød	8 X Ø19	8 X Ø23	8 X Ø25	12 X Ø29	12 X Ø32

DIMENSION DETAILS (INCH)

FULL PORT

	2"	3"	4"	6"	8"
ØB	2.01	2.99	4.02	5.91	7.91
ØC	3.63	5.00	6.19	8.50	10.63
ØD	6.50	8.27	10.83	13.98	16.54
PCD	5.00	6.63	8.50	11.50	13.75
L	11.50	10.08	17.01	22.01	25.98
T	1.00	1.25	1.50	1.88	2.19
N X Ød	8 X Ø19	8 X Ø23	8 X Ø23	12 X Ø23	12 X Ø25

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