



ISO 9001

SERIES 90**Fire Safe**
API 607 4th Edition
Certified

HIGH PERFORMANCE FLANGED BALL VALVE

DESIGN ADVANTAGES

- MOUNTING PAD TO DIN 3337 / ISO 5211 WITH CENTER RING
- EXTRA HIGH CYCLE LIFE
Mars maintenance free live loaded double sealing high cycle stem packing system provides extra longer service life.
- ANTI-STATIC DEVICE
Standard applied between stem and body, stem and ball
- BLOW OUT PROOF STEM
- FIRE TESTED PER API 607 4TH EDITION
- INVESTMENT CAST BODY CONSTRUCTION

APPLICATIONS

Chemical, Petrochemical, Oil and Gas production, Refining, Pulp & Paper, Food industry and others.

SPECIFICATIONS

Construction : Two-Piece Body, Full Bore
Size : 1/2" to 4" (DN 15 to DN 100)
Body : CF8M, WCB / DIN 1.4408, 1.0619
Ball and Stem : 316 S.S.
Seat : Reinforced PTFE

STANDARDS

Design : ANSI B16.34, BS5351, DIN 3337
Face to face : ANSI B16.10, DIN 3202 F1, F4 / F5
Flange dimensions : ANSI B16.5
DIN 2632/2633 & DIN 2634/2635
Pipeline valves : API 6D
Pressure testing : API 598
Fire testing : API 607 4th Edition, BS5351
Mounting pad : ISO 5211
Marking system for valves : MSS SP-25
Material Certification : EN 10204 / DIN 50.049-3.1B
Quality Assurance : ISO 9001

VALVE RATING AND FIG. NO.:

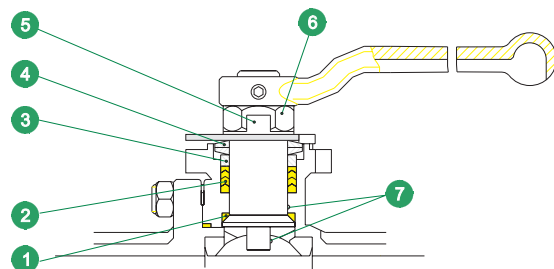
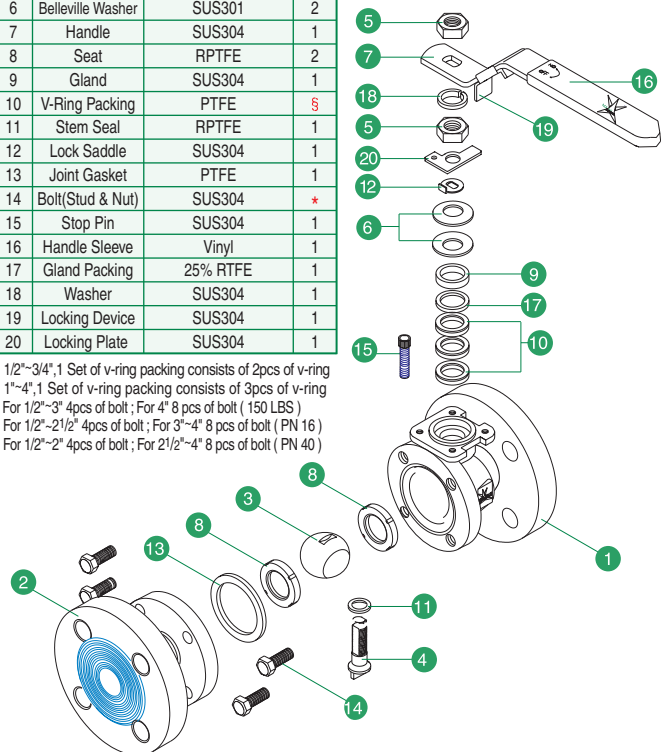
FIG. 90-10 ANSI CLASS 150#
FIG. 90-20 ANSI CLASS 300#
FIG. 90-30 DIN PN 10/16 (DIN 3202 F1)
FIG. 90-40 DIN PN 10/16 (DIN 3202 F4/F5)
FIG. 90-50 DIN PN 25/40 (DIN 3202 F1)
FIG. 90-60 DIN PN 25/40 (DIN 3202 F4/F5)

NO.	PART NAME	MATERIAL	QTY
1	Body	ASTM A351 Gr. CF8M	1
2	End Cap	ASTM A351 Gr. CF8M	1
3	Ball	SUS316	1
4	Stem	SUS316	1
5	Stem Nut	SUS304	2
6	Belleville Washer	SUS301	2
7	Handle	SUS304	1
8	Seat	RPTFE	2
9	Gland	SUS304	1
10	V-Ring Packing	PTFE	5
11	Stem Seal	RPTFE	1
12	Lock Saddle	SUS304	1
13	Joint Gasket	PTFE	1
14	Bolt(Stud & Nut)	SUS304	*
15	Stop Pin	SUS304	1
16	Handle Sleeve	Vinyl	1
17	Gland Packing	25% RTFE	1
18	Washer	SUS304	1
19	Locking Device	SUS304	1
20	Locking Plate	SUS304	1

§ 1/2"~3/4", 1 Set of v-ring packing consists of 2pcs of v-ring
1"-4", 1 Set of v-ring packing consists of 3pcs of v-ring

* For 1/2"-3" 4pcs of bolt; For 4" 8 pcs of bolt (150 LBS)

For 1/2"-2 1/2" 4pcs of bolt; For 3"-4" 8 pcs of bolt (PN 16)
For 1/2"-2" 4pcs of bolt; For 2 1/2"-4" 8 pcs of bolt (PN 40)



MAINTENANCE FREE LIVE LOADED DOUBLE SEALING HIGH CYCLE STEM DESIGN PROVIDES OPTIMUM SEALS

1. PYRAMIDAL STEM WITH STEM SEAL

First stage of defense against leakage. The 45 degree slope of the stem accompany by the stem seal effectively blocks all leak path from forming during rotation.

2. V-RING STEM PACKING

Second stage of defense against leakage. Triple layers of V-Ring Chevron packing expands side ways as it is being compressed, blocking all air pockets thus preventing leak path. The grinding effect of metal to PTFE contact.

3. GLAND

Made of stainless steel, equally distributes the compressive force on the packing and the seal.

4. BELLEVILLE WASHER

Release stored compressive energy for automatic compensation of seals due to wear and tear fluctuation of temperature and pressure.

5. LOCK SADDLE

Stabilizes the stem nut to keep it from loosening.

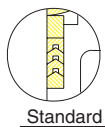
6. STEM NUT

Compress the entire stem system to enable blocking of leakage.

7. ANTI-STATIC DEVICE

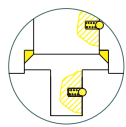
Standard applied between stem and ball, stem and body.

DIMENSIONS (mm)

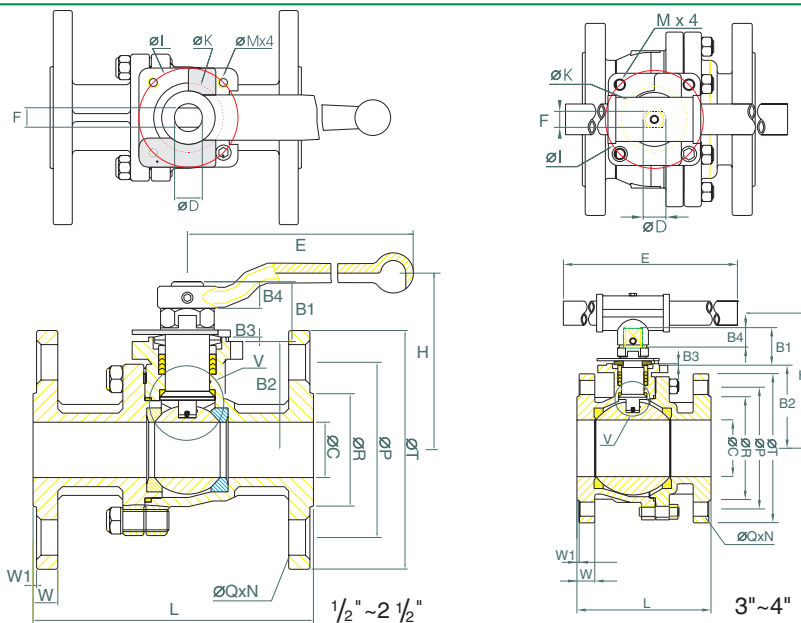


Standard

V-VIEW



Pyramidal Stem & Anti-static Device



SERIES 90-10/20

SIZE	B1+0.5	B2	B3	B4+1.5 0.5	ØC	ØD	E	F	H	ØI	ØK	L	*L	M	N	*N	ØP	*ØP	ØQ	*ØQ	ØR	ØT	*ØT	W	*W	W1	W(Kg)	ISO5211
1/2"	22.4	34.5	1	9.8	15.0	11.1	165	8.0	60.6	42	30	108.3	140	M5(10-24UNC)	4	4	60.5	66.5	16	16	35.1	88.9	95	11.2	14.3	1.6	1.69	F04
3/4"	21.4	41.1	1	8.8	20.0	11.1	165	8.0	67.2	42	30	117.3	152	M5(10-24UNC)	4	4	69.9	82.5	16	19	42.9	98.6	117	11.1	15.9	1.5	2.1	F04
1"	26.5	49.5	2	9.6	25.0	14.3	200	9.7	82.9	50	35	127.0	165	M6(1/4"-20UNC)	4	4	79.2	88.9	16	19	50.8	108	124	11.2	17.5	1.6	3.02	F05
1½"	34.8	78.3	2	14.8	38.0	19.0	250	12.0	115.3	70	55	165.1	190	M8(5/16"-18UNC)	4	4	96.8	114.3	16	22	73.2	127	155	14.3	20.7	1.6	6.17	F07
2"	34.8	86.4	2	14.8	50.0	19.0	250	12.0	123.4	70	55	178.3	216	M8(5/16"-18UNC)	4	8	120.7	127.0	19	19	91.9	152.4	165	15.9	22.3	1.6	8.7	F07
2½"	34.8	97.4	2	14.8	65.0	19.0	250	12.0	134.4	70	55	190.3	241	M8(5/16"-18UNC)	4	8	139.7	149.0	19	22	104.6	177.8	190	17.6	25.4	1.6	13.62	F07
3"	46.0	107.4	2	21.8	80	24.0	354	15.0	176.5	102	70.0	203.5	283	M10(3/8"-16UNC)	8	8	152.4	168.1	19	22	127	190.5	210	19.1	28.6	1.6	18.58	F10
4"	45.5	122.4	2	21.8	100	24.0	354	15.0	191	102	70.0	229.5	305	M10(3/8"-16UNC)	8	8	190.5	200.1	19	22	157.2	228.6	254	23.9	31.8	1.6	29.5	F10

B1, H ±1mm

SERIES 90-30/40

SIZE	B1±0.5	B2	B3	B4±1.5 0.5	ØC	ØD	E	F	H	ØI	ØK	L	*L	M	N	ØP	ØQ	ØR	ØT	W	W1	W(kg)	ISO5211
1/2"	22.4	34.5	1	9.8	15.0	11.1	165	8.0	60.6	42	30	115.3	130	M5	4	65	14	45	95	16	2	2.23	F04
3/4"	21.4	42.3	1	8.8	20.0	11.1	165	8.0	67.4	42	30	120.3	150	M5	4	75	14	58	105	18	2	3.1	F04
1"	26.5	49.5	2	9.6	25.0	14.3	200	9.7	82.9	50	35	125.5	160	M6	4	85	14	68	115	18	2	4.11	F05
1 1/4"	26.5	54.5	2	9.6	32.0	14.3	200	9.7	88	50	35	130.3	--	M6	4	100	18	78	140	18	2	5.56	F05
1 1/2"	34.8	78.0	2	14.8	38.0	19.0	250	12.0	115	70	55	140	200	M8	4	110	18	88	150	16	3	7.64	F07
2"	34.8	86.7	2	14.8	50.0	19.0	250	12.0	123.7	70	55	150	230	M8	4	125	18	101.9	165	18	3	9.45	F07
2 1/2"	34.8	98.0	2	14.8	65.0	19.0	250	12.0	135	70	55	170.5	290	M8	4	145	18	122.4	185	18	3	13.93	F07
3"	45.5	108.0	2	21.3	80	24.0	354	15.0	177.2	102	70.0	180.5	310	M10	8	160	18	138.4	200	20	3	18.59	F10
4"	45.5	123.0	2	21.3	100	24.0	354	15.0	192.2	102	70.0	190.5	350	M10	8	180	18	158	220	20	3	25.86	F10

* Dimension for ANSI Class 300

B1, H ±1mm

SERIES 90-50/60

SIZE	B1±0.5	B2	B3	B4±1.5 0.5	ØC	ØD	E	F	H	ØI	ØK	L	*L	M	N	ØP	ØQ	ØR	ØT	W	W1	W(kg)	ISO5211
1/2"	22.4	34.5	1	9.8	15.0	11.1	165	8.0	60.6	42	30	115.3	130	M5	4	65	14	45	95	16	2	2.23	F04
3/4"	21.4	42.3	1	8.8	20.0	11.1	165	8.0	67.4	42	30	120.3	150	M5	4	75	14	58	105	18	2	3.10	F04
1"	26.5	49.5	2	9.6	25.0	14.3	200	9.7	82.9	50	35	125.5	160	M6	4	85	14	68	115	18	2	4.11	F05
1 1/4"	26.5	54.5	2	9.6	32.0	14.3	200	9.7	88.0	50	35	130.3	--	M6	4	100	18	78	140	18	2	5.56	F05
1 1/2"	34.8	78.0	2	14.8	38.0	19.0	250	12.0	115.0	70	55	140.3	200	M8	4	110	18	88	150	18	3	7.64	F07
2"	34.8	86.7	2	14.8	50.0	19.0	250	12.0	123.7	70	55	150.3	230	M8	4	125	18	102	165	20	3	10.15	F07
2 1/2"	34.8	98.0	2	14.8	65.0	19.0	250	12.0	135	70	55	170.3	290	M8	8	145	18	122	185	22	3	15.30	F07
3"	46.0	108.0	2	21.8	80.0	24.0	354	15.0	177.1	102	70.0	180.3	310	M10	8	160	18	138	200	24	3	20.3	F10
4"	45.5	123.0	2	21.8	100.0	24.0	354	15.0	191.7	102	70.0	190.3	350	M10	8	190	22	162.6	235	24	3	29.92	F10

* Dimension for F1

B1, H ±1mm

HOW TO ORDER

90-40

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VALVE TYPE	SIZE	MAERIAL	SEAT	HANDLE
FIG. 90-10	ANSI 150#	03	1/2"	Sizes 1/2" to 2 1/2"
FIG. 90-20	ANSI 300#	04	3/4"	IC
FIG. 90-30	PN 10/16 F1	05	1"	304 S.S. Investment
FIG. 90-40	PN 10/16 F4	06	1 1/4"	Cast Handle without
FIG. 90-50	PN 25/40 F1	07	1 1/2"	Vinyl Sleeve
FIG. 90-60	PN 25/40 F4	08	2"	304 S.S. Plated Handle
		09	2 1/2"	with Vinyl Sleeve
		10	3"	Sizes 3" to 4"
		11	4"	None
				304 S.S. Cylindrical
				Handle only

* Dimension for F1



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