

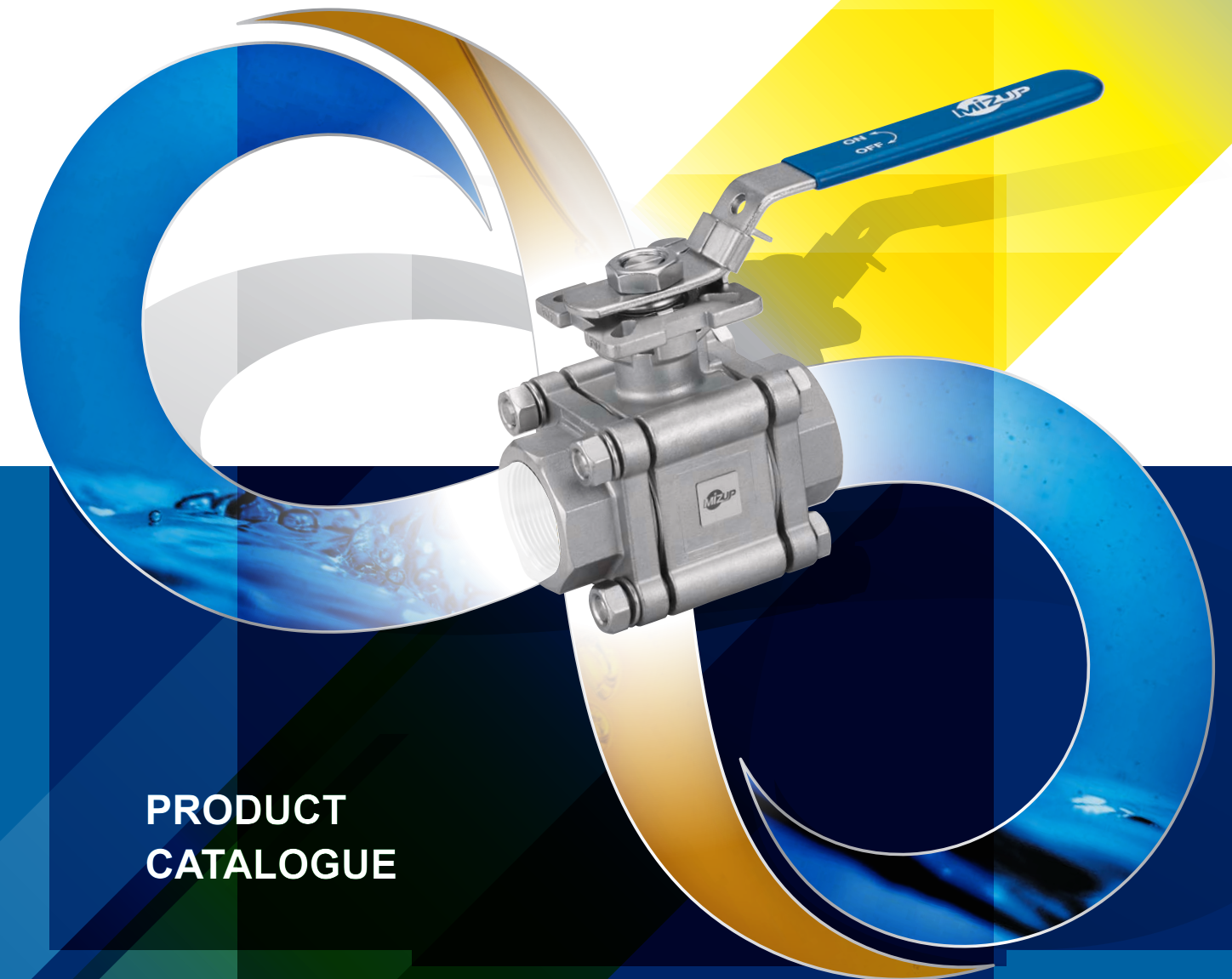


MIZUP METAL CO., LTD.

No.22-1, 31 Rd., Industrial 40768 Park, Taichung, Taiwan
TEL : +886 4-2359 9797 · FAX : +886 4-2359 9787
E-mail : sales@mizuptw.com
[http : //www.mizuptw.com](http://www.mizuptw.com)

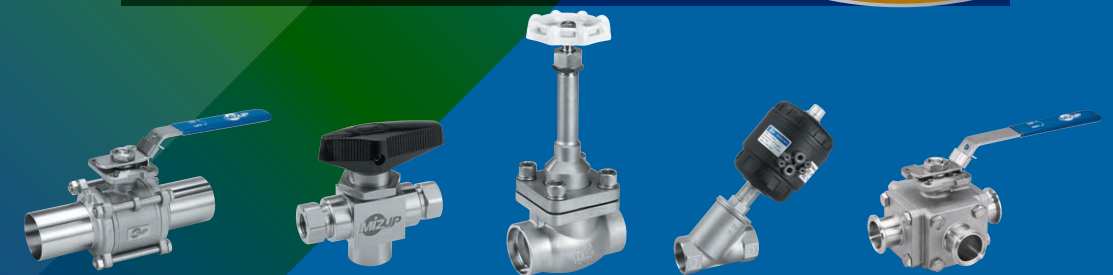


MIZUP METAL CO., LTD.



**PRODUCT
CATALOGUE**

PRODUCT CATALOGUE



MIZUP METAL CO., LTD.

www.mizuptw.com



SERIES 10

101 / 103 / 103-1

P.03



SERIES 20

201 / 203AU1 / 203AJ1 / 203AD1 / 203AU2
203AJ2 / 203AD2 / 204-2 / 204-3 / 204-4
204-5 / 205 / 205S2 / 206

P.05



SERIES 30

301 / 302 / 303 / 304 / 304G / 305 / 336

P.17



SERIES 70

701 / 702 / 703 / 704 / 704LV / 705 / 706 / 707 / 70KF-NW

P.21



SERIES 85

851 / 852 / 853

P.27



SERIES 90

901 / 902 / 903 / 904 / 904LV / 905
906 / 907 / 906J / 90KF-NW

P.29



SERIES 95

951 / 952 / 953 / 95K

P.39



SERIES MP

MPY1 / MPY2 / MPY3 / MP271 / MP2714 / MP281
MP282 / MP283 / MP371 / MP372 / MP373 / MP381
MP382 / MP383 / MP392

P.43



OTHER VALVES AND VALVES PARTS

P.51

PRESSURE - TEMPERATURE RATINGS

P.55

INDEX

SERIES 10

MODEL 101

1-Piece Ball Valve
Threaded



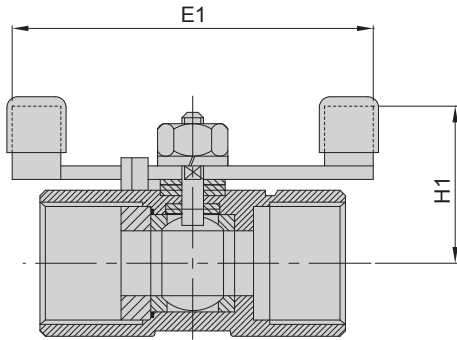
Pressure Rating	800WOG
Material	ASTM A351-CF8M
Seat	PTFE
Bore Type	Reduced bore

MATERIALS LIST

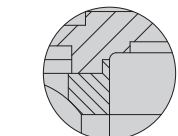
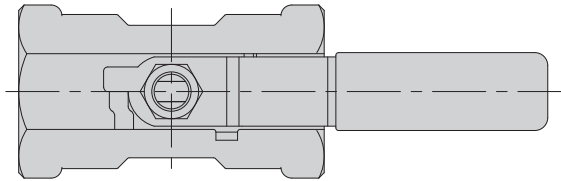
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
4	BALL	1	SUS316
5	STEM	1	SUS316
9	INSERT	1	SUS316
11	PACKING	1	PTFE
12	SEAT	2	PTFE
13	THRUST WASHER	1	PTFE
14	STEM PACKING	1	PTFE
15	GLAND	2	SUS304
19	HANDLE	1	SUS304
21	HANDLE SLEEVE	1	VINYL
23	HANDLE WASHER	1	SUS304
24	HANDLE NUT	1	SUS304

DIMENSIONS (mm)

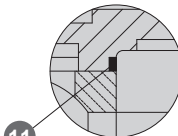
SIZE	PORT	L	E	E1	H	H1	W
1/4"	5	39	68.5	48	29.5	25.5	17
3/8"	7.2	44	79	41	32	27.5	21
1/2"	9.2	56.5	97	54	46	31	25
3/4"	12.5	59	97	54	49	34.5	32
1"	15	71	101	70	53.5	49.5	38
1 1/4"	20	78	101	-	58.5	-	48
1 1/2"	25	83	146	-	65.5	-	53
2"	32	100	146	-	71	-	64



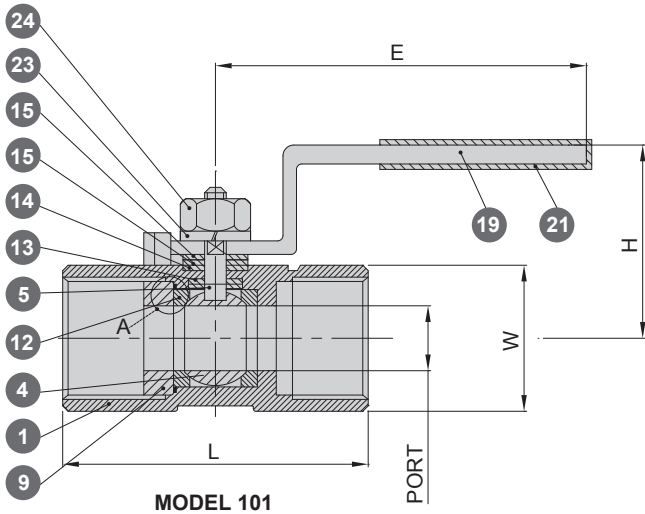
MODEL 101B
Butterfly Handle



1/4"~1"
A-VIEW



1 1/4"~2"
A-VIEW

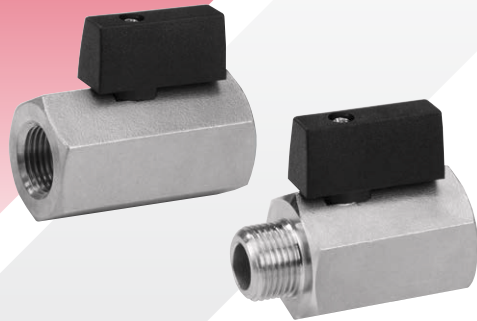


MODEL 101

SERIES 10

MODEL
103 / 103-1

1-Piece Mini Ball Valve
Threaded



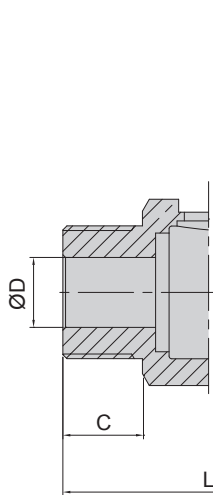
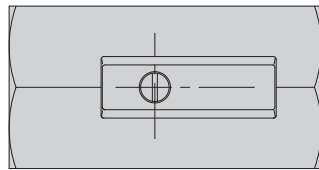
Pressure Rating	800WOG
Material	ASTM A351-CF8M
Seat	PTFE
Bore Type	Reduced bore

MATERIALS LIST

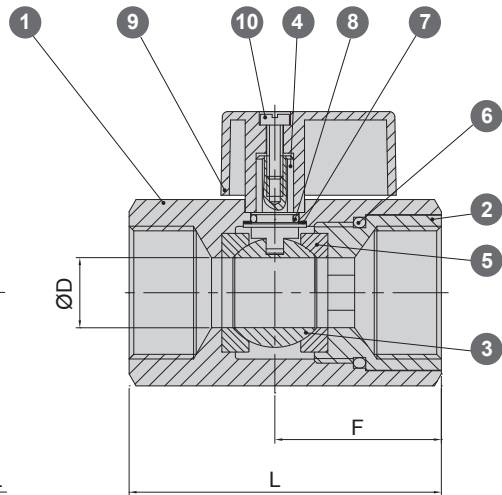
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	INSERT	1	SUS316
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	PTFE
6	O-RING	1	VITON
7	STEM SEAL	1	PTFE
8	O-RING	1	VITON
9	HANDLE	1	PA66-GF30%
10	HANDLE BOLT	1	SUS304

DIMENSIONS (mm)

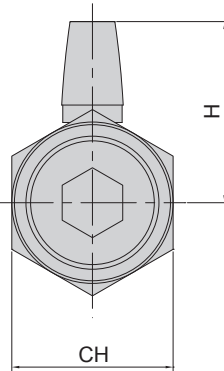
SIZE	C	ØD	F	L	H	CH
1/8"	11	6	27	50	31.2	26.8
1/4"	11	8	27	50	31.2	26.8
3/8"	11	10	27	50	31.2	26.8
1/2"	11	10	27	50	31.2	26.8



MODEL 103-1
Male



MODEL 103
Female



SERIES 20

MODEL

203AU1 / 203AJ1 / 203AD1

203AU2 / 203AJ2 / 203AD2

2-Piece Ball Valve

Flanged



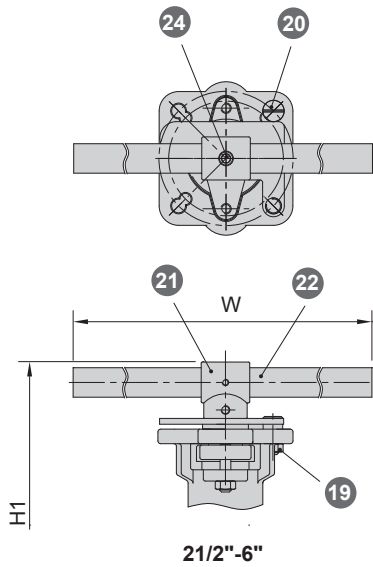
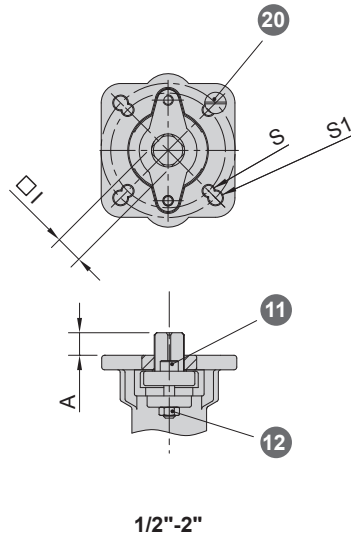
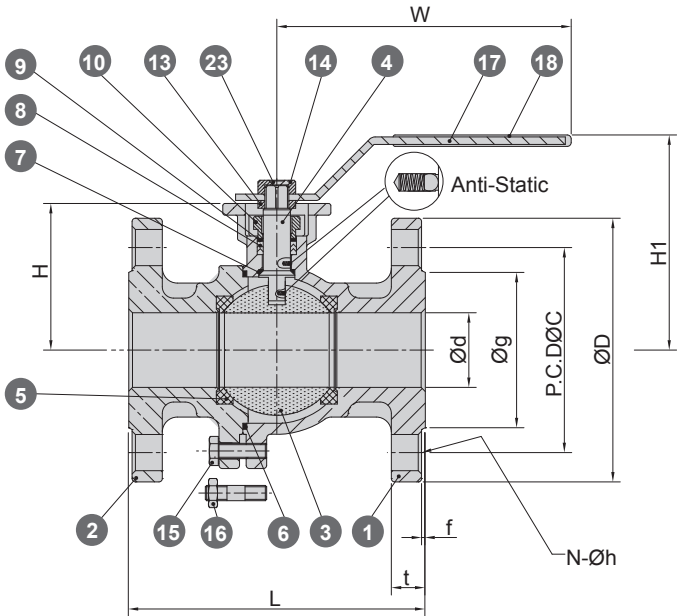
Pressure Rating	ANSI Class 150, JIS 10K, DIN PN16 (21/2"-6") ANSI Class 300, JIS 20K, DIN PN40
Material	203AU: ASTM A351 CF8, CF8M, A216-WCB 203AJ: JIS G5121 SCS13A, 14A, SCPH2 203AD: EN10213 1.4308, 1.4408, 1.0619
Seat	TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	- Patent product - Blow-out proof stem - Anti-static device (Ball-stem-body) - Tightenable gland to stop leakage - ISO 5211 direct mounting pad - API607 Fire safe approved (Optional)

DESIGN AND TESTING SPECIFICATIONS

	203AU1 / 203AU2	203AJ1 / 203AJ2	203AD1 / 203AD2
RATING	ASME B16.34	JIS B2220	EN12516-2
FACE TO FACE	ASME B16.10	JIS B2002	EN558-1
CONNECTION	ASME B16.5	JIS B2220	EN1092-1
PRESSURE TEST	API598	JIS B2003	EN12266-1

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8 / CF8M / WCB
2	END CAP	1	CF8 / CF8M / WCB
3	BALL	1	CF8 / CF8M
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	PACKING	1	PTFE
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%SS / 50%PTFE
10	GLAND	1	SUS304
11	BOLT	2	SUS304
12	NUT	2	SUS304
13	HANDLE WASHER(1/2"-2")	1	SUS304
14	STEM WASHER(1/2"-2")	1	SUS304
15	BOLT(1/2"-2")&STUD(21/2"-6")	4~8	SUS304
16	NUT(21/2"-6")	6~8	SUS304
17	HANDLE(1/2"-2")	1	SUS304
18	HANDLE SLEEVE(1/2"-2")	1	VINYL
19	STOP PIN NUT	1	SUS304
20	STOP PIN	1	SUS304
21	HANDLE ADAPTOR(21/2"-6")	1	CF8
22	PIPE HANDLE(21/2"-6")	1	SUS304
23	HANDLE BOLT(1/2"-2")	1	SUS304
24	HANDLE BOLT(21/2"-6")	1	SUS304



DIMENSIONS (mm)

MODE	SIZE	A	W	H	H1	Øi	L	Ød	Øg	ØC	ØD	t	f	Øh	N	S	S1	ISO 5211
1/2"	10K	8	128	50.5	79.5	9	108	15	35	70	95	12.5	1	15	4	M5/5.5	M5/5.5	F03 F04
	150LB	8	128	50.5	79.5	9	108	15	35	70	95	12.5	1	15	4	M5/5.5	M5/5.5	F03 F04
3/4"	10K	8	128	53.8	82.8	9	117	20	43	75	100	14.5	1	15	4	M5/5.5	M5/5.5	F03 F04
	150LB	8	128	53.8	82.8	9	117	20	43	75	100	14.5	1	15	4	M5/5.5	M5/5.5	F03 F04
1"	10K	9.5	167	64.5	96.5	11	127	25	67	90	125	14.3	1	19	4	M5/5.5	M6/6.5	F04 F05
	150LB	9.5	167	64.5	96.5	11	127	25	67	90	125	14.3	1	19	4	M5/5.5	M6/6.5	F04 F05
1 1/4"	10K	9.5	167	70	102	11	140	32	76	100	135	16	2	19	4	M5/5.5	M6/6.5	F04 F05
	150LB	9.5	167	70	102	11	140	32	76	100	135	16	2	19	4	M5/5.5	M6/6.5	F04 F05
1 1/2"	10K	14	215	77	110	14	165	40	81	105	140	16.5	2	19	4	M6/6.5	M8/8.5	F05 F07
	150LB	14	215	77	110	14	165	38	73	98.5	127	14.5	1.6	16	4	M6/6.5	M8/8.5	F05 F07
2"	10K	14	215	85.3	118	14	178	50	96	120	155	16.5	2	19	4	M6/6.5	M8/8.5	F05 F07
	150LB	14	215	85.3	118	14	178	50	96	120	155	16.5	2	19	4	M6/6.5	M8/8.5	F05 F07
2 1/2"	10K	17	495	111.5	172	17	190	65	116	140	175	18.7	2	19	4	M8/9	M10/11	F07 F10
	150LB	17	495	111.5	172	17	190	65	116	140	175	18.7	2	19	4	M8/9	M10/11	F07 F10
3"	10K	17	495	120.5	181	17	203	80	126	150	185	19	2	19	8	M8/9	M10/11	F07 F10
	150LB	17	495	120.5	181	17	203	80	126	150	185	19	2	19	8	M8/9	M10/11	F07 F10
4"	10K	22	595	145	206	22	229	100	151	175	210	19	2	19	8	M10/11	-	F10
	150LB	22	595	145	206	22	229	100	151	175	210	19	2	19	8	M10/11	-	F10
5"	10K	27	600	178.5	250	27	356	125	182.7	210	250	20	2	23	8	M12/13	M16/17	F12 F14
	150LB	27	600	178.5	250	27	356	125	182.7	210	250	20	2	23	8	M12/13	M16/17	F12 F14
6"	10K	27	800	196	267	27	394	150	215.9	241.3	279	23	1.6	22.4	8	M12/13	M16/17	F12 F14
	150LB	27	800	196	267	27	394	150	215.9	241.3	279	23	1.6	22.4	8	M12/13	M16/17	F12 F14

L Dimensions For PN16: DIN3202 F1 (1/2"-4"), F5 (5"-6")

DIMENSIONS (mm)

MODE	SIZE	A	W	H	H1	Øi	L	Ød	Øg	ØC	ØD	t	f	Øh	N	S	S1	ISO 5211
1/2"	20K	8	130	50.5	79.5	9	140	15	51	70	95	14	1	15	4	M5/5.5	M5/5.5	F03 F04
	PN40	8	130	50.5	79.5	9	140	15	51	70	95	14	1	15	4	M5/5.5	M5/5.5	F03 F04
3/4"	20K	8	130	53.8	88.8	9	152	20	56	75	100	16	1	15	4	M5/5.5	M5/5.5	F03 F04
	PN40	8	130	53.8	88.8	9	152	20	56	75	100	16	1	15	4	M5/5.5	M5/5.5	F03 F04
1"	20K	9.5	168	65	96.5	11	165	25	67	90	125	16	1	19	4	M5/5.5	M6/6.5	F04 F05
	PN40	9.5	168	65	96.5	11	165	25	67	90	125	16	1	19	4	M5/5.5	M6/6.5	F04 F05
1 1/2"	20K	14	221	77	111.5	14	190	40	81	105	140	18	2	19	4	M6/6.5	M8/8.5	F05 F07
	PN40	14	221	77	111.5	14	190	38	73	98.5	127	14.5	1.6	16	4	M6/6.5	M8/8.5	F05 F07
2"	20K	14	217	85.3	119.5	14	216	50	96	120	155	18	2	19	8	M6/6.5	M8/8.5	F05 F07
	PN40	14	217	85.3	119.5	14	216	50	96	120	155	18	2	19	8	M6/6.5	M8/8.5	F05 F07
2 1/2"	20K	17	495	111.5	172	17	241	65	116	140	175	20	2	19	8	M8/9	M10/11	F07 F10
	PN40	17	495	111.5	172	17	241	65	116	140	175	20	2	19	8	M8/9	M10/11	F07 F10
3"	20K	17	495	120.5	181	17	283	80	126	150	185	19	2	19	8	M8/9	M10/11	F07 F10
	PN40	17	495	120.5	181	17	283	80	126	150	185	19	2	19	8	M8/9	M10/11	F07 F10
4"	20K	22	595	145	206	22	305	100	151	175	210	19	2	19	8	M10/11	-	F10
	PN40	22	595	145	206	22	305	100	151	175	210	19	2	19	8	M10/11	-	F10
5"	20K	27	600	178.5	250	27	381	125	182.7	210	250	20	2	23	8	M12/13	M16/17	F12 F14
	PN40	27	600	178.5	250	27	381	125	182.7	210	250	20	2	23	8	M12/13	M16/17	F12 F14
6"	20K	27	800	196	267	27	403	150	215.9	241.3	279	23	1.6	22.4	8	M12/13	M16/17	F12 F14
	PN40	27	800	196	267	27	403	150	215.9	241.3	279	23	1.6	22.4	8	M12/13	M16/17	F12 F14

L Dimensions For PN40: DIN3202 F1 (1/2"-4"), F5 (5"-6")

SERIES 10

SERIES 20

SERIES 30

SERIES 70

SERIES 85

SERIES 90

SERIES 95

SERIES MPY / MP

SERIES OTHER VALVES AND VALVES PARTS

SERIES PRESSURE- AND TEMPERATURE RATINGS

SERIES 10

SERIES 20

SERIES 30

SERIES 70

SERIES 85

SERIES 90

SERIES 95

SERIES MPY / MP

SERIES OTHER VALVES AND VALVES PARTS

SERIES PRESSURE- AND TEMPERATURE RATINGS

SERIES 20

MODEL 201

2-Piece Ball Valve
Threaded



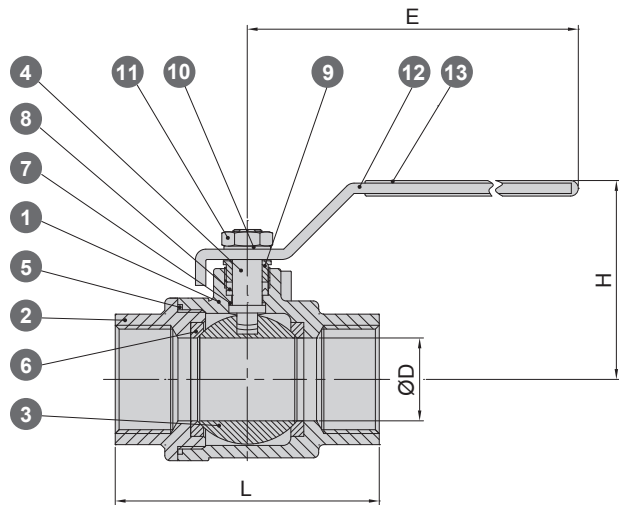
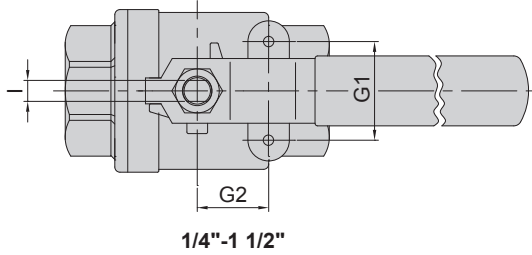
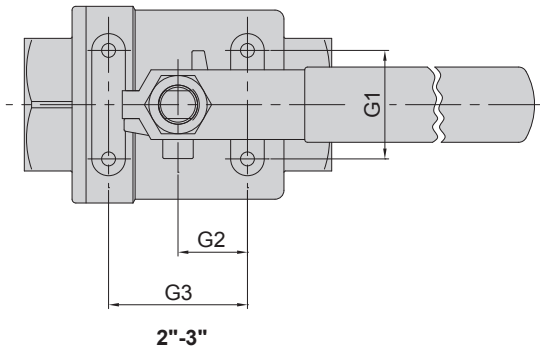
Pressure Rating	1000WOG
Material	ASTM A351-CF8M
Seat	PTFE, TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	Drilled and tapped mouting pad

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	1	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	1	PTFE
6	SEAT	2	PTFE
7	STEM SEAL	1	PTFE
8	STEM PACKING	1	PTFE
9	GLAND NUT	1	SUS304
10	WASHER	1	SUS304
11	STEM NUT	1	SUS304
12	HANDLE	1	SUS304
13	HANDLE SLEEVE	1	VINYL

DIMENSIONS (mm)

SIZE	ØD	E	H	I	L	G1	G2	G3
1/4"	11.4	103	51	5	55	28	12.7	-
3/8"	12.5	103	51	5	55	28	12.7	-
1/2"	15	133	61.5	6.3	65	28	12.7	-
3/4"	20	133	64.5	6.3	75.3	35	22.4	-
1"	25	153	73.5	8	88	35	22.4	-
1 1/4"	32	153	79	8	101	38.1	25.4	-
1 1/2"	38	191	94.5	9.5	110	38.1	25.4	-
2"	50	191	103	9.5	124	38.1	25.4	50.8
2 1/2"	65	247	135	12	160	55	35.1	70.2
3"	80	247	144	12	175.3	55	35.1	70.2



SERIES 20

MODEL 204-2

3-Way Ball Valve
Threaded



Pressure Rating	1000WOG
Material	ASTM A351-CF8M
Seat	TFM1600
Bore Type	Standard bore
Additional Features	• L-port, T-port available • ISO5211 direct mounting pad

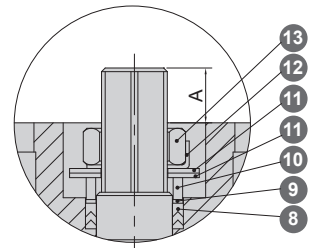
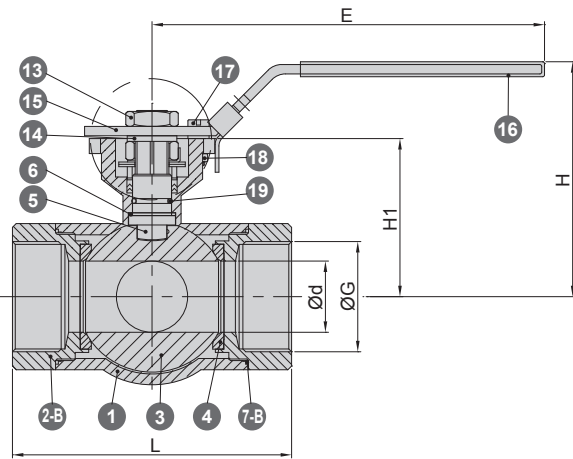
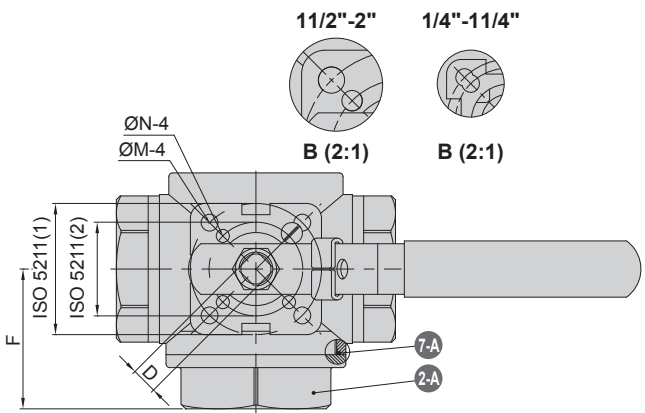
MATERIALS LIST

NO	PART NAME	QTY	MATERIAL
1	BODY	1	CF8M
2-A	CAP	1	CF8M
2-B	CAP	2	CF8M
3	BALL	1	CF8M
4	SEAT	4/1 SETS	TFM1600
5	STEM	1	SUS316
6	THRUST WASHER	1	PTFE
7-A	PACKING	1	PTFE
7-B	PACKING	2/1 SETS	PTFE
8	STEM PACKING	1 SETS	PTFE
9	THRUST WASHER	1	TFM1600
10	GLAND BUSH	1	SUS304
11	BELLEVILLE WASHER	2	SUS304
12	STOP	1	SUS304
13	HANDLE NUT	2	SUS304
14	WASHER	1	SUS304
15	HANDLE	1	SUS304
16	HANDLE SLEEVE	1	VINYL
17	LEVER STOP	1	SUS304
18	LEVER STOP NUT	1	SUS304
19	O-RING	1	VITON

DIMENSIONS (mm)

SIZE	Ød	L	H	D	F	A	ØN	ØM	E	H1	ISO 5211 (1)	(2)	ØG
1/4"	11	75.7	68	9	38.3	8.2	6	6	131	36.8	F04 42	F03 36	PF.PT.NPT
3/8"	11	75.7	68	9	38.3	8.2	6	6	131	36.8	F04 42	F03 36	PF.PT.NPT
1/2"	12.5	75.7	68	9	38.3	8.2	6	6	131	36.8	F04 42	F03 36	PF.PT.NPT
3/4"	16	86.6	74	9	44.7	9.0	6	6	131	44.1	F04 42	F03 36	PF.PT.NPT
1"	20	103	94	11	50.8	11.5	6	7	184	55.1	F05 50	F04 42	PF.PT.NPT
1 1/4"	25	118.2	100	11	57.7	11.5	6	7	184	60.7	F05 50	F04 42	PF.PT.NPT
1 1/2"	32	125.8	114	14	62.6	15.1	7	9	227	75.2	F07 70	F05 50	PF.PT.NPT
2"	38	149	123	14	74.3	15.1	7	9	227	84.4	F07 70	F05 50	PF.PT.NPT

TYPE	PORT	1	2	3	4
T					
L					



SERIES 20

MODEL 204-3

3-Way Sanitary Ball Valve
T-Clamp



Pressure Rating	1000WOG
Material	ASTM A351-CF8M
Seat	Cavity filled PTFE
Bore Type	Standard bore
Additional Features	• L-port, T-port available • Surface roughness: Ra<0.5µm • ISO 5211 direct mounting pad

MATERIALS LIST

NO.	PART NAME	QTY	MATERIAL
1	BODY	1	CF8M
2A	CAP	1	CF8M
2B	CAP	2	CF8M
3	BALL	1	CF8M
4	SEAT	4/1 SETS	PTFE
4A	SEAT	2/1 SETS	PTFE
4B	SEAT	2/1 SETS	PTFE
5	STEM	1	SUS316
6	THRUST WASHER	1	PTFE
7A	PACKING	1	PTFE
7B	PACKING	2/1 SETS	PTFE
8	STEM PACKING	1 SETS	PTFE
9	THRUST WASHER	1	TFM1600
10	GLAND BUSH	1	SUS304
11	BELLEVILLE WASAER	2	SUS304
12	STOP	1	SUS304
13	HANDLE NUT	2	SUS304
14	WASHER	1	SUS304
15	HANDLE	1	SUS304
16	HANDLE SLEEVE	1	VINYL
17	LEVER STOP	1	SUS304
18	LEVER STOP NUT	1	SUS304
19	O-RING	1	VITON
20	STUFF	1	PTFE

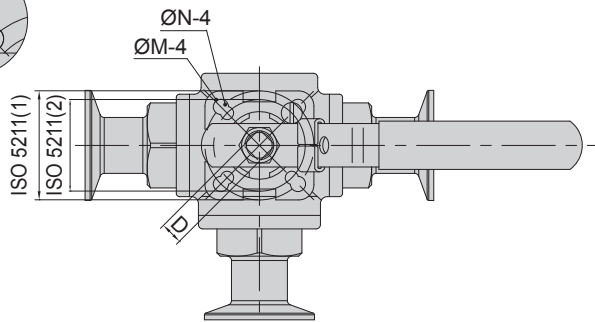
DIMENSIONS (mm)

SIZE	Ød	Ød1	Ød2	Ød3	L	H	D	F	A	ØN	ØM	E	H1	ISO 5211 (1)	(2)
1/2"	12.5	9.4	20.32	25	133	68	9	67	8.2	6	6	131	36.8	F04 42	F03 36
3/4"	12.5	15.75	20.32	25	142	68	9	71	8.2	6	6	131	36.8	F04 42	F03 36
1"	20	22.1	43.64	50.4	160	94	11	80	11.5	6	7	184	55.1	F05 50	F04 42
1 1/2"	32	34.8	43.64	50.4	182	114	14	91	15.1	7	9	227	75.2	F07 70	F05 50
2"	38	47.5	56.34	64	216	123	14	108	15.1	7	9	227	84.4	F07 70	F05 50

PORT TYPE	1	2	3	4
T				
L				

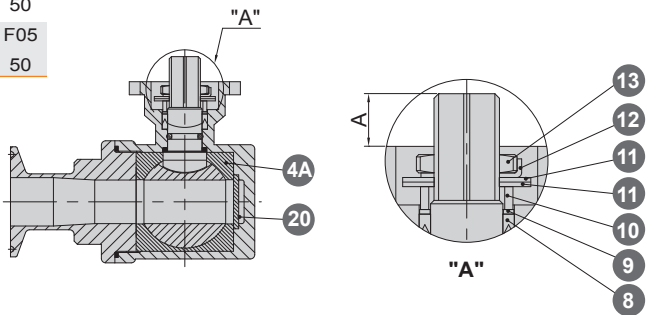
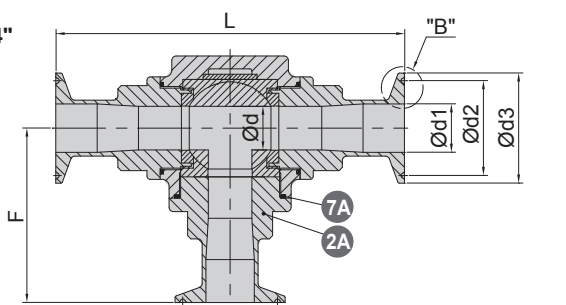
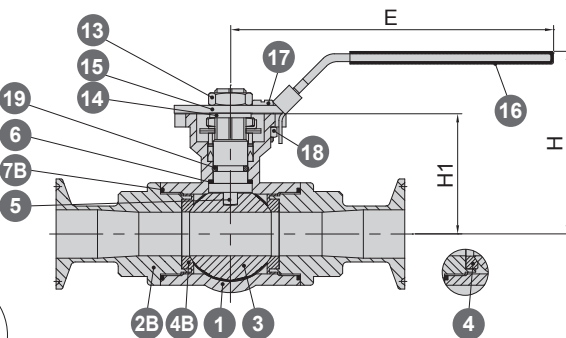
1/4"-11/4"

11/2"-2"



"B" 1"-2"

"B" 1/2"-3/4"



SERIES 20

MODEL 204-4

4-Way Ball Valve
Threaded



Pressure Rating	1000WOG
Material	ASTM A351-CF8M
Seat	PTFE
Bore Type	Standard bore
Additional Features	• L-port, T-port, X-port available • ISO 5211 direct mounting pad

MATERIALS LIST

NO.	PART NAME	QTY	MATERIAL
1	BODY	1	CF8M
2A	CAP	2	CF8M
2B	CAP	2	CF8M
3	BALL	1	CF8M
4	SEAT	4/1 SETS	PTFE
5	STEM	1	SUS316
6	THRUST WASHER	1	PTFE
7A	PACKING	2/1 SETS	PTFE
7B	PACKING	2/1 SETS	PTFE
8	STEM PACKING	1 SETS	PTFE
9	THRUST WASHER	1	TFM1600
10	GLAND BUSH	1	SUS304
11	BELLEVILLE WASHER	2	SUS304
12	STOP	1	SUS304
13	HANDLE NUT	2	SUS304
14	WASHER	1	SUS304
15	HANDLE	1	SUS304
16	HANDLE SLEEVE	1	VINYL
17	LEVER STOP	1	SUS304
18	LEVER STOP NUT	1	SUS304
19	O-RING	1	VITON

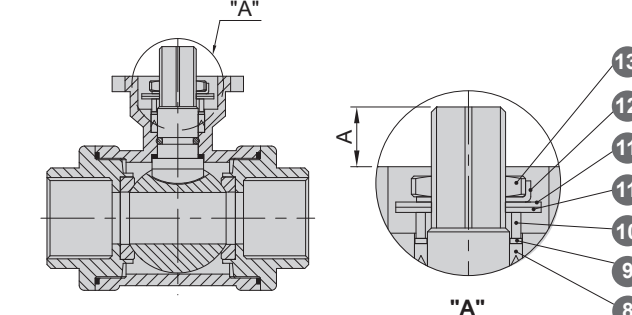
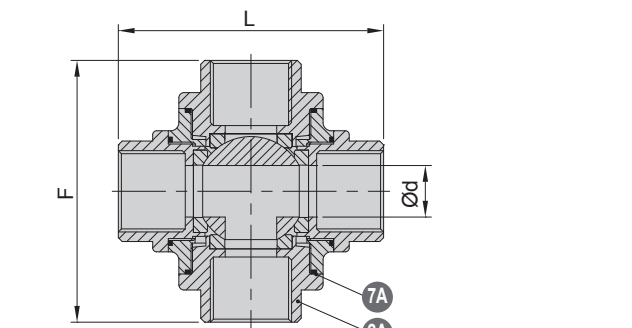
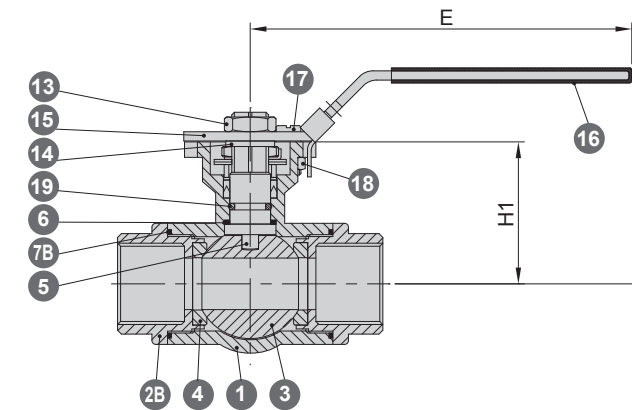
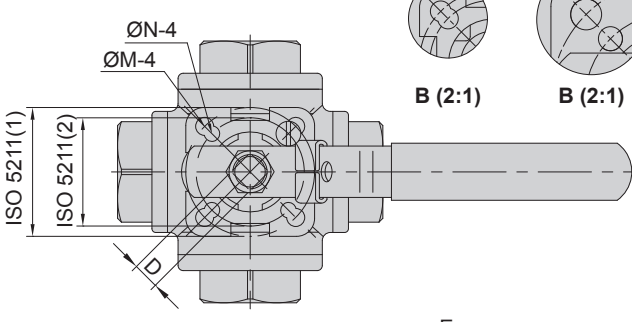
DIMENSIONS (mm)

SIZE	Ød	L	H	D	F	A	ØN	E	ØM	H1	ISO 5211 (1)	(2)
1/4"	11.8	75.7	68	9	76.5	8.2	6	6	131	36.8	F04 42	F03 36
3/8"	11.8	75.7	68	9	76.5	8.2	6	6	131	36.8	F04 42	F03 36
1/2"	12.5	75.7	68	9	76.5	8.2	6	6	131	36.8	F04 42	F03 36
3/4"	16	86.6	74	9	89.4	9.0	6	6	131	44.1	F04 42	F03 36
1"	20	103	94	11	101.6	11.5	6	7	184	55.1	F05 50	F04 42
1 1/4"	25	118.2	100	11	115.4	11.5	6	7	184	60.7	F05 50	F04 42
1 1/2"	32	125.8	114	14	125.2	15.1	7	9	227	75.2	F07 70	F05 50
2"	38	149	123	14	148.6	15.1	7	9	227	84.4	F07 70	F05 50

PORT TYPE	1	2	3	4	
T					1/4"-3/8" T-PORTØd-Ø11
L					1/4"-3/8" L-PORTØd-Ø11
X					1/4"-3/8" X-PORTØd-Ø8

1/4"-11/4"

11/2"-2"



SERIES 20

MODEL 204-5

3-Way Ball Valve

Flanged

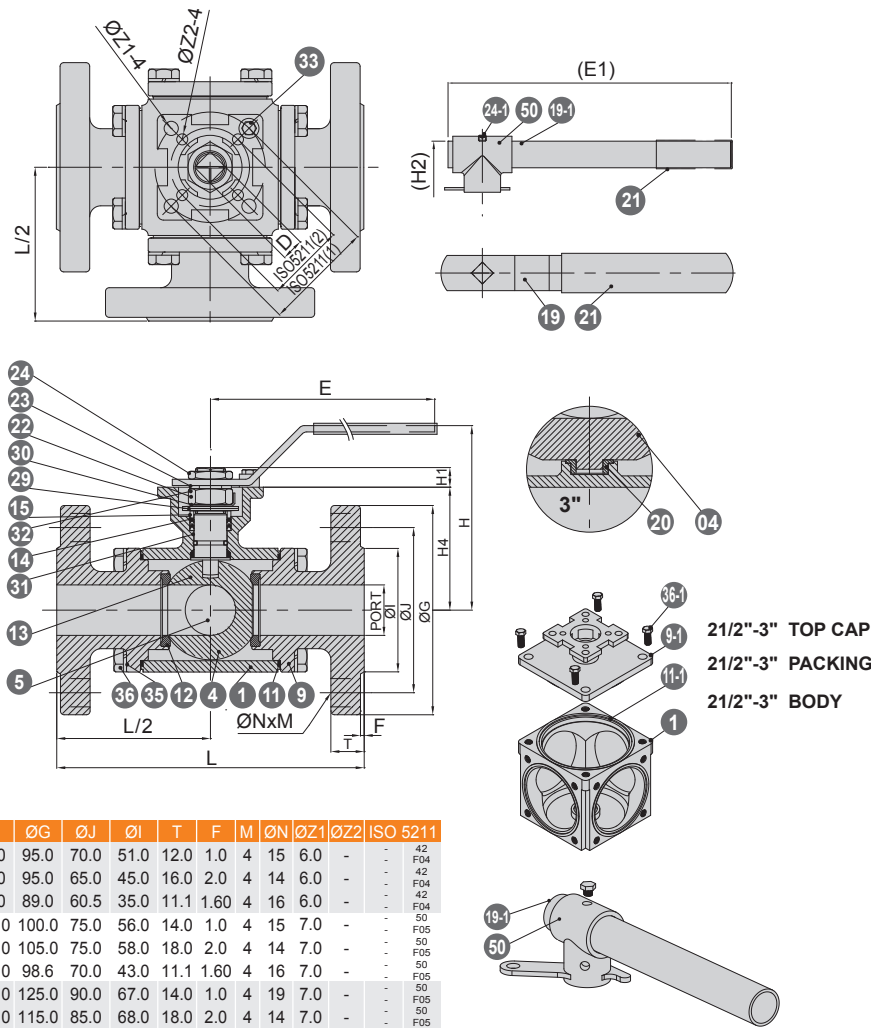
(1/2"-3")



Pressure Rating	ANSI Class 150, JIS 10K, DIN PN16
Material	ANSI Class 150: ASTM A351-CF8M JIS 10K: JIS G5121-SCS14A DIN PN16: EN10213-1.4408
Seat	RPTFE
Bore Type	Full bore
Additional Features	• L-port, T-port available • ISO 5211 direct mounting pad

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
4	BALL	1	CF8M
5	STEM	1	SS316
9	END CAP	4	CF8M
9-1	TOP CAP	1	CF8M
11	PACKING	4	PTFE
11-1	PACKING	1	PTFE
12	SEAT	4	R.PTFE
13	THRUST WASHER	1	R.PTFE
14	STEM PACKING	1SET	R.PTFE
15	GLAND	1	SS304
19	HANDLE	1	SS304
19-1	HANDLE	1	SS304
20	BUSHING	1	PTFE
21	HANDLE SLEEVE	1	VINYL
22	STEM NUT	1	SS304
23	HANDLE WASHER	1	SS304
24	HANDLE NUT	1	SS304
24-1	HANDLE NUT	1	SS304
29	BELLEVILLE WASHER	2	SUS301
30	STOP WASHER	1	SS304
31	O-RING	1	VITON
32	PACKING FOLLOWER	1	PTFE+25%GF
33	STOP PIN	1SET	SS304
35	BOLT	16	SS304
36	BOLT WASHER	16	SS304
36-1	BOLT WASHER	4	SS304
50	HANDLE ADAPTER	1	CF8



DIMENSIONS (mm)

	SIZE	PORT	L	E	E1	H	H1	H2	H4	D	ØG	ØJ	ØI	T	F	M	ØN	ØZ1	ØZ2	ISO 5211
1/2"	10K	15.0	147.4	186.5	-	89.0	9.0	-	47.8	9.0	95.0	70.0	51.0	12.0	1.0	4	15	6.0	-	-
	PN16	16.0	158.0	186.5	-	89.0	9.0	-	47.8	9.0	95.0	65.0	45.0	16.0	2.0	4	14	6.0	-	-
	150LB	16.0	146.8	186.5	-	89.0	9.0	-	47.8	9.0	89.0	60.5	35.0	11.1	1.60	4	16	6.0	-	-
3/4"	10K	20.0	155.8	218.0	-	98.0	11.0	-	58.2	11.0	100.0	75.0	56.0	14.0	1.0	4	15	7.0	-	-
	PN16	20.0	169.0	218.0	-	98.0	11.0	-	58.2	11.0	105.0	75.0	58.0	18.0	2.0	4	14	7.0	-	-
	150LB	20.0	153.5	218.0	-	98.0	11.0	-	58.2	11.0	98.6	70.0	43.0	11.1	1.60	4	16	7.0	-	-
1"	10K	25.0	168.8	218.0	-	102.0	11.5	-	64.0	11.0	125.0	90.0	67.0	14.0	1.0	4	19	7.0	-	-
	PN16	25.0	185.0	218.0	-	102.0	11.5	-	64.0	11.0	115.0	85.0	68.0	18.0	2.0	4	14	7.0	-	-
	150LB	25.0	170.0	218.0	-	102.0	11.5	-	64.0	11.0	108.0	79.2	51.0	11.1	1.60	4	16	7.0	-	-
1 1/4"	10K	32.0	197.9	235.0	-	118.5	15.2	-	79.0	14.0	135.0	100.0	76.0	16.0	2.0	4	19	9.0	7.0	-
	PN16	32.0	195.0	235.0	-	118.5	15.2	-	79.0	14.0	140.0	100.0	78.0	18.0	2.0	4	18	9.0	7.0	-
	150LB	32.0	193.5	235.0	-	118.5	15.2	-	79.0	14.0	117.5	88.9	63.5	12.7	1.60	4	16	9.0	7.0	-
1 1/2"	10K	40.0	221.4	235.0	-	127.0	14.3	-	88.5	14.0	140.0	105.0	81.0	16.0	2.0	4	19	9.0	7.0	-
	PN16	38.0	232.0	235.0	-	127.0	14.3	-	88.5	14.0	150.0	110.0	88.0	18.0	2.0	4	18	9.0	7.0	-
	150LB	38.0	217.0	235.0	-	127.0	14.3	-	88.5	14.0	127.0	98.6	73.2	14.3	1.60	4	16	9.0	7.0	-
2"	10K	50.0	244.6	251.5	400.0	154.8	17.8	161.4	105.8	17.0	155.0	120.0	96.0	16.0	2.0	4	19	11.0	9.0	-
	PN16	50.0	253.0	251.5	400.0	154.8	17.8	161.4	105.8	17.0	165.0	125.0	102.0	20.0	2.0	4	18	11.0	9.0	-
	150LB	50.0	221.0	252.0	-	150.8	17.8	-	105.8	17.0	152.5	120.7	92.0	15.8	1.60	4	19	11.0	9.0	-
2 1/2"	10K	64.0	270.0	301.5	400.0	166.2	17.5	172.8	117.3	17.0	175.0	140.0	116.0	18.0	2.0	4	19	11.0	9.0	-
	PN16	65.0	270.0	301.5	400.0	166.2	17.5	172.8	117.3	17.0	185.0	145.0	122.0	18.0	2.0	4	18	11.0	9.0	-
	150LB	65.0	270.0	301.5	400.0	166.2	17.5	172.8	117.3	17.0	177.8	139.7	104.7	23.3	1.60	4	19	11.0	9.0	-
3"	10K	76.0	292.2	301.5	400.0	173.8	17.5	180.4	128.0	17.0	185.0	150.0	126.0	18.0	2.0	8	19	11.0	9.0	-
	PN16	76.0	292.2	301.5	400.0	173.8	17.5	180.4	128.0	17.0	200.0	160.0	138.0	20.0	2.0	8	18	11.0	9.0	-
	150LB	76.0	292.2	301.5	400.0	173.8	17.5	180.4	128.0	17.0	190.5	152.4	127.0	23.9	1.60	4	19	11.0	9.0	-

TYPE	PORT	1	2	3	4
T					
L					

SERIES 20

MODEL 204-5

3-Way Ball Valve

Flanged

(4"-6")

Pressure Rating	ANSI Class 150, JIS 10K, DIN PN16
Material	ANSI Class 150: ASTM A351-CF8M JIS 10K: JIS G5121-SCS14A DIN PN16: EN10213-1.4408
Seat	RPTFE
Bore Type	Full bore
Additional Features	• L-port, T-port available • ISO 5211 direct mounting pad

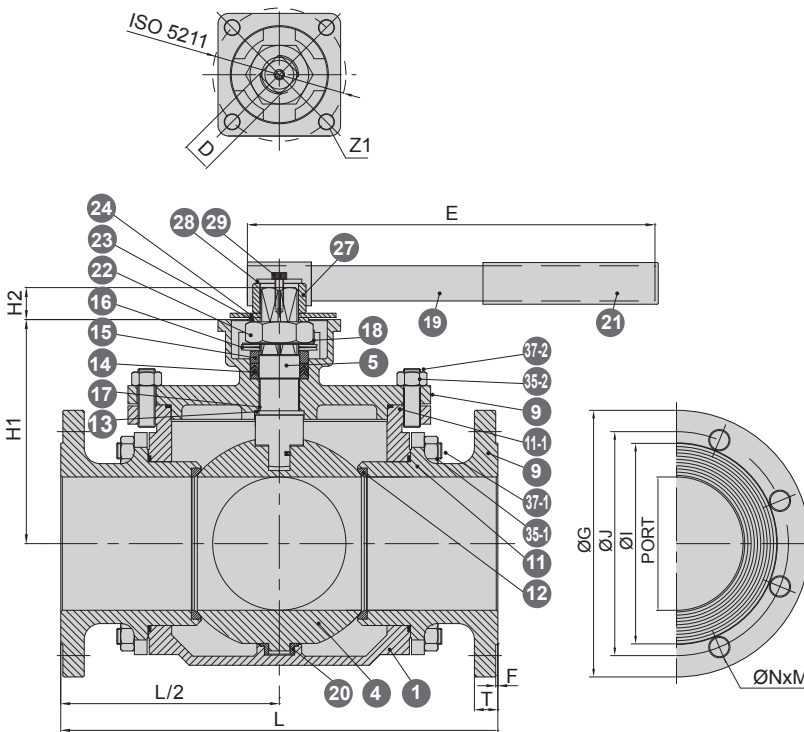
MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	JIS-G5121-SCS14A EN10213-1.4408 ASTM A351-CF8M
4	BALL	1	ASTM A351-CF8M
5	STEM	1	SS316 JIS-G5121-SCS14A ASTM A351-CF8M
9	END CAP	4	EN10213-1.4408 ASTM A351-CF8M
11	PACKING	4	PTFE
11-1	PACKING	1	PTFE
12	SEAT	4	RPTFE
13	THRUST WASHER	1	RPTFE
14	STEM PACKING	1 SET	RPTFE
15	GLAND	1	SS304
16	BELLEVILLE WASHER	2	SS301
17	STEM BUSHING	1	PTFE
18	TAB WASHER	1	SS304
19	HANDLE	1	IRON TUBE
20	BUSHING	1	PTFE
21	HANDLE SLEEVE	1	VINYL
22	STEM NUT	1	SS304
23	WASHER	1	SS304
24	TRIANGLE STOPPER	1	SS304
27	HANDLE ADAPTER	1	SS304
28	HANDLE WASHER	1	SS304
29	HANDLE BOLT	1	SS304
35-1	BODY BOLT	24	SS304
35-2	BODY BOLT	6	SS304
37-1	BOLT NUT	24	SS304
37-2	BOLT NUT	6	SS304

DIMENSIONS (mm)

	SIZE	PORT	L	E	H1	H2	D	ØG	ØJ	ØI	T	F	M	ØN	Z1	ISO 5211
4"	10K	100	368.0	600	159.0	30.0	27.0	210.0	175.0	151.0	18.0	2.0	8	19	14.0	F12 125
	PN16	100	360	600	159.0	30.0	27.0	220.0	180.0	158.0	20.0	2.0	8	18	-	F12 125
	150LB	100	368.0	600	159.0	30.0	27.0	228.6	190.5	157.2	23.9	1.6	8	19	14.0	F12 125
5"	10K	125	420.0	600	210.0	30.0	27.0	250.0	210.0	182.0	20.0	2.0	8	23	-	F12 125
	PN16	125	416.0	600	210.0	30.0	27.0	250.0	210.0	188.0	22.0	2.0	8	18	14.0	F12 125
	150LB	125	420.0	600	210.0	30.0	27.0	254.0	216.0	186.0	24.0	1.6	8	22.3	14.0	F12 125
6"	10K	150	479.4	800	239.0	36.0	36.0	280.0	240.0	212.0	22.0	2.0	8	23	-	F14 140
	PN16	150	472.6	800	239.0	43.5	36.0	285.0	240.0	212.0	22.0	2.0	8	22	17.5	F14 140
	150LB	150	479.4	800	239.0	43.5	36.0	279.4	241.3	216.0	25.4	1.6	8	22.3	17.5	F14 140

TYPE	PORT	1	2	3	4
T					
L					



SERIES 20

MODEL 205

2-Piece High Pressure
Ball Valve
Threaded



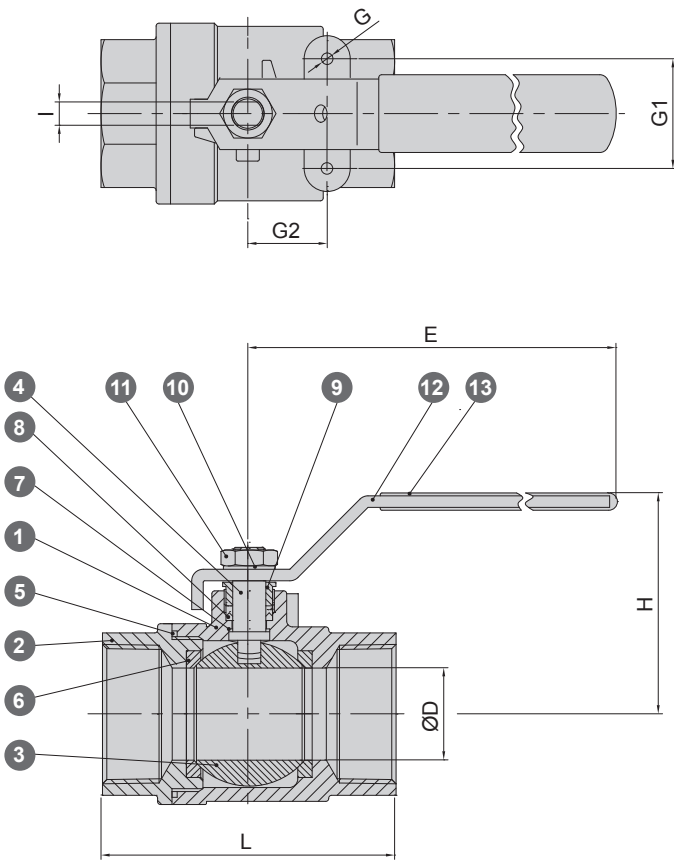
Pressure Rating	2000WOG (1/4"-1") 1500WOG (1 1/4"-2")
Material	ASTM A351-CF8M
Seat	TFM1600
Bore Type	Reduced bore
Additional Features	Drilled and tapped mouting pad

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	1	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	1	PTFE
6	SEAT	2	TFM1600
7	STEM SEAL	1	PTFE
8	STEM PACKING	1	PTFE
9	GLAND NUT	1	SUS304
10	WASHER	1	SUS304
11	STEM NUT	1	SUS304
12	HANDLE	1	SUS304
13	HANDLE SLEEVE	1	VINYL

DIMENSIONS (mm)

SIZE	ØD	E	H	I	L	G	G1	G2
1/4"	9.5	103	47	5	52	3/16"-UNC	28	12.7
3/8"	9.5	103	47	5	52	3/16"-UNC	28	12.7
1/2"	12.5	133	50	5	62	3/16"-UNC	28	12.7
3/4"	15	133	56	6.3	69	3/16"-UNC	35	22.4
1"	20	153	59	6.3	83	3/16"-UNC	35	22.4
1 1/4"	25	153	69	8	90	3/16"-UNC	38.1	25.4
1 1/2"	32	191	75	8	104	1/4"-UNC	38.1	25.4
2"	38	191	83	9.5	117	1/4"-UNC	38.1	25.4



SERIES 20

MODEL 205S2

2-Piece Spring Return
Ball Valve
Threaded



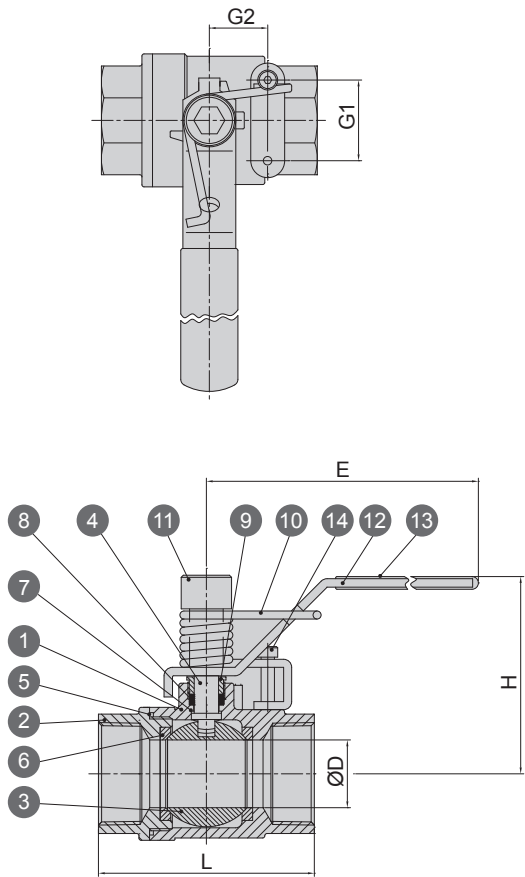
Pressure Rating	2000WOG
Material	ASTM A351-CF8M
Seat	TFM1600
Bore Type	Reduced bore
Additional Feature	Normally closed

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	1	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	1	PTFE
6	SEAT	2	TFM1600
7	STEM SEAL	1	PTFE
8	STEM PACKING	1	PTFE
9	GLAND NUT	1	SUS304
10	SPRING	1	STEEL
11	BOLT	1	STEEL
12	HANDLE	1	SUS304
13	HANDLE SLEEVE	1	VINYL
14	STOPPER BOLT	1	STEEL

DIMENSIONS (mm)

SIZE	ØD	E	H	L	G1	G2
1/4"	9.5	119	58	52	28	12.7
3/8"	9.5	119	58	52	28	12.7
1/2"	12.7	119	61	62	28	12.7
3/4"	15	137	70	69	35	22.4
1"	20	137	73	83	35	22.4
1 1/4"	25	177	86	90	38.1	25.4
1 1/2"	32	177	92	104	38.1	25.4
2"	38	216	104	117	38.1	25.4



SERIES 20

MODEL 206

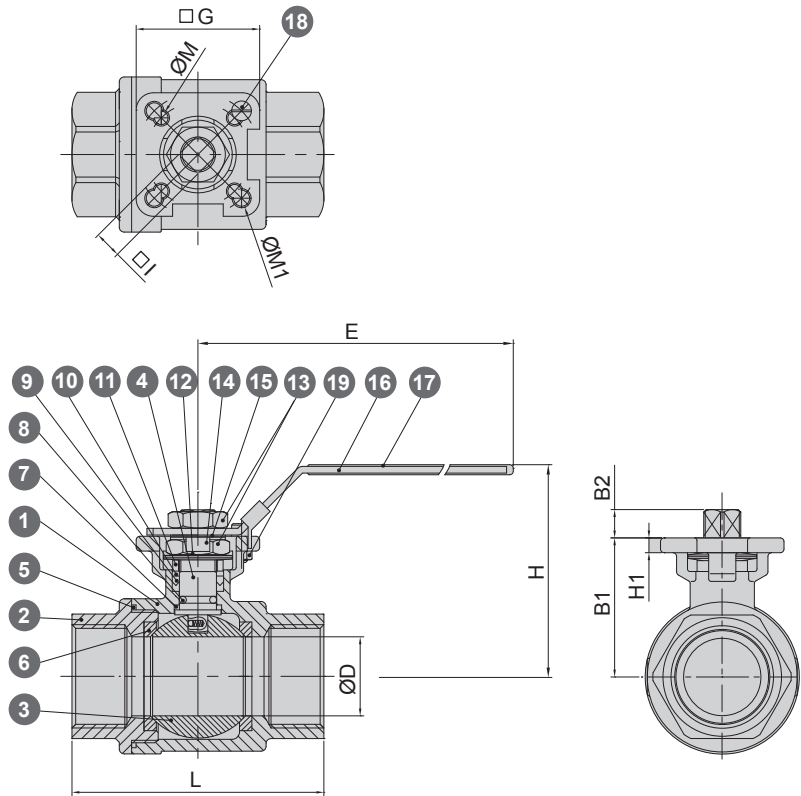
2-Piece ISO 5211
Direct Mounted Ball Valve
Threaded



Pressure Rating	PN64 (1/2"-2")
	PN50 (2 1/2"-3")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	ISO 5211 direct mounting pad

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408 (CF8M)
2	END CAP	1	1.4408 (CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	1	PTFE
6	SEAT	2	TFM1600
7	STEM SEAL	1	R.PTFE
8	O-RING	1	VITON
9	V-RING PACKING	1SET	PTFE
10	BUSHING	1	50%S.S.POWDER FILLED PTFE
11	GLAND	1	SUS304
12	BELLEVILLE WASHER	2	SUS304
13	STEM NUT	2	SUS304
14	LOCK SADDLE	1	SUS304
15	WASHER	1	SUS304
16	HANDLE	1	SUS304
17	HANDLE SLEEVE	1	VINYL
18	STOP PIN	1	SUS304
19	STOP PIN NUT	1	SUS304



DIMENSIONS (mm)

SIZE	B1	B2	ØD	E	□G	H	H1	□I	L	ØM	ØM1	ISO 5211
1/2"	35.6	9	15	128	42	65.9	5	9	65	6	6	F03 F04
3/4"	38.8	9	20	128	42	69.2	5	9	74.6	6	6	F03 F04
1"	52.2	14	25	167	50	85.6	6	11	88	6	7	F04 F05
1 1/4"	56.5	14	32	167	50	90	6	11	100.6	6	7	F04 F05
1 1/2"	65.7	15.5	38	215	70	99.6	7	14	109	7	9.2	F05 F07
2"	73.95	15.5	50	215	70	107.8	7	14	123.6	7	9.2	F05 F07
2 1/2"	94	16.5	65	322	100	146.7	10.5	17	159.6	9	11	F07 F10
3"	103	16.5	80	322	100	155.7	10.5	17	173.8	9	11	F07 F10

SERIES 30

MODEL
301 / 302 / 303
304 / 304G

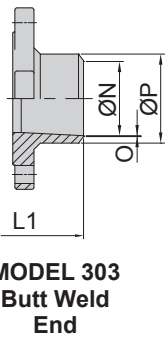
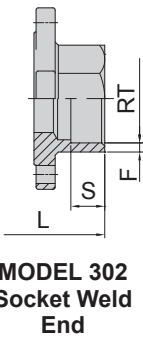
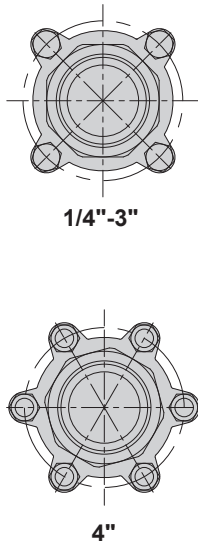
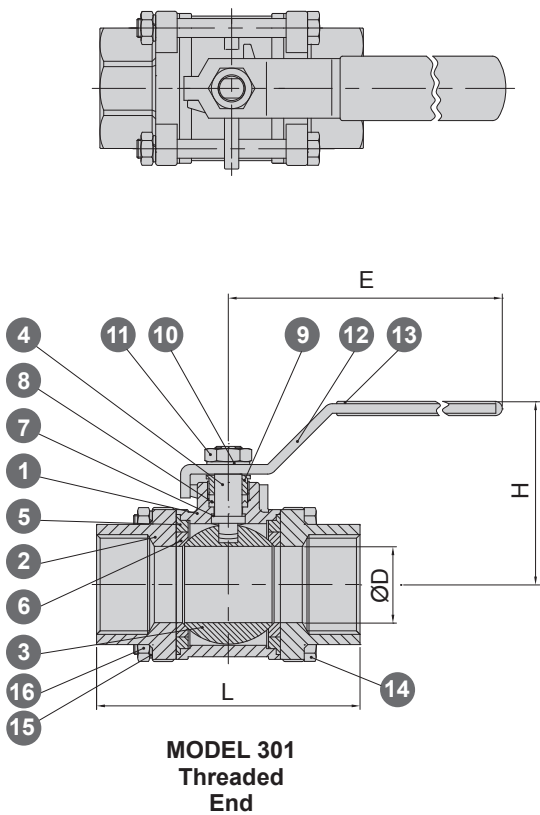
3-Piece Manual
Ball Valve



Pressure Rating	1000WOG
Material	ASTM A351-CF8M, ASTM A216-WCB
Seat	PTFE, TFM1600, 25%, 50%
Bore Type	Full bore
Additional Feature	Available connections: Threaded, Socket weld, Butt weld, Extended butt weld, Grooved end

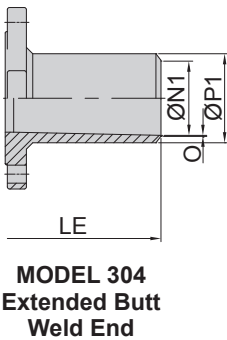
MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	2	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	JOINT GASKET	2	PTFE
6	SEAT	2	PTFE
7	STEM SEAL	1	PTFE
8	STEM PACKING	1	PTFE
9	GLAND NUT	1	SUS304
10	WASHER	1	SUS304
11	STEM NUT	1	SUS304
12	HANDLE	1	SUS304
13	HANDLE SLEEVE	1	VINYL
14	BOLT	4~6	SUS304
15	WASHER	4~12	SUS304
16	BOLT NUT	4~12	SUS304

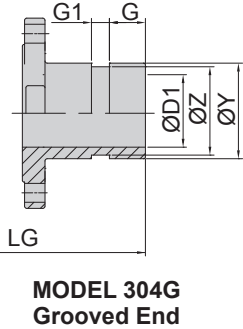


MODEL 302
Socket Weld
End

MODEL 303
Butt Weld
End



MODEL 304
Extended Butt
Weld End



MODEL 304G
Grooved End

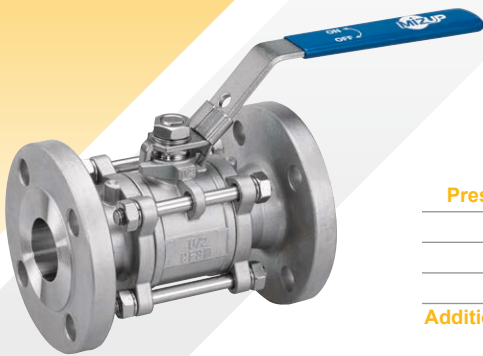
DIMENSIONS (mm)

SIZE	ØD	ØD1	E	F	G	G1	H	S	L	L1	LE	LG	ØN	ØN1	O	ØP	ØP1	RT	ØY	ØZ
1/4"	11.6	-	103	3.6	-	-	54	11	61	61	223	-	11.6	11.6	1	18	15	14.2	-	-
3/8"	12.5	-	103	2	-	-	54	11	61	61	223	-	12.5	14	1	18	17	17.7	-	-
1/2"	15	15	133	2	15.9	7.93	55	12	69	69	225	127	17	15.6	1	22.7	21	21.9	20.6	17.8
3/4"	20	20	133	2.6	15.9	7.93	59	14	78	78	225	127	22.5	20.7	1	27.7	26.8	27.3	26.7	23.8
1"	25	25	153	3.2	15.9	7.93	70	14	84	84	244	152.4	26	25.8	1	33.5	34.4	34.1	33.4	30.2
1 1/4"	32	32	153	4.05	15.9	7.93	75	15	104	104	253	152.4	34.4	33.3	1	42.2	43.4	42.8	42.2	39
1 1/2"	38	38	191	3.7	15.9	7.93	84	17	118	119	258	177.8	41.5	40.5	1	48.8	49.8	48.8	48.3	45.1
2"	50	50	191	4.35	15.9	7.93	92	19	129	131	275	203.2	53	51.5	1	61	61	61.3	60.3	57.2
2 1/2"	65	65	247	5.75	15.9	7.93	128	21	162	162	332	228.6	65.8	68	1	77	77	74	73	69.1
3"	80	80	247	5.25	15.9	7.93	137	25	182	182	351	254	81	81	1	91	91	90	88.9	84.9
4"	100	100	295	5.7	15.9	9.53	173	30	230	230	360	304.8	102	101	1	115	115	115.6	114.3	110.3

SERIES 30

MODEL 305

3-Piece Manual Ball Valve
Flanged



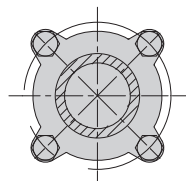
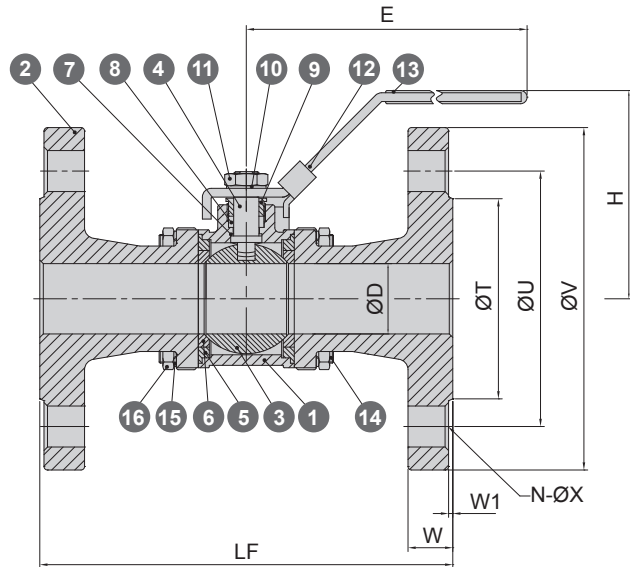
Pressure Rating	1000WOG
Material	ASTM A351-CF8M
Seat	PTFE, TFM1600, 25%, 50%
Bore Type	Full bore
Additional Feature	Available connections: ANSI Class 150, JIS 10K, DIN PN40

MATERIALS LIST

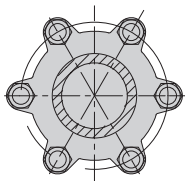
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	2	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	JOINT GASKET	2	PTFE
6	SEAT	2	PTFE
7	STEM SEAL	1	PTFE
8	STEM PACKING	1	PTFE
9	GLAND NUT	1	SUS304
10	WASHER	1	SUS304
11	STEM NUT	1	SUS304
12	HANDLE LOCK	1	SUS304
13	HANDLE SLEEVE	1	VINYL
14	BOLT	4~6	SUS304
15	WASHER	4~12	SUS304
16	BOLT NUT	4~12	SUS304

DIMENSIONS (mm)

SIZE	FLANGED	ØD	E	H	LF	QT	ØU	ØV	W	W1	ØX	N
1/2"	150 LB	PN40 10K	15	135	85	108	35	60.4	89	11.2	1.6	16
						108	52	65	95	16	2	14
3/4"	150 LB	PN40 10K	20	135	89	117	43	69.9	98.4	12.7	1.6	16
						150	58	75	105	18	2	14
1"	150 LB	PN40 10K	25	175	87	127	50.8	79.4	108	14.3	1.6	16
						160	69	85	115	18	2	14
1 1/4"	150 LB	PN40 10K	32	175	92	146	64	88.9	117.5	15.9	1.6	16
						182	78.8	100	140	18	2	18
1 1/2"	150 LB	PN40 10K	38	211	105	165	73	98.5	127	17.5	1.6	16
						200	90	110	150	18	3	18
2"	150 LB	PN40 10K	50	211	113	192	92	120.7	152.4	19.1	1.6	19
						230	106	125	165	20	3	18
2 1/2"	150 LB	PN40 10K	65	247	128	232	104.8	139.7	177.8	22.3	1.6	19
						290	122	145	185	22	3	18
3"	150 LB	PN40 10K	80	247	137	255	127	152.4	190.5	23.9	1.6	19
						310	138	160	200	24	3	18
4"	150 LB	PN40 10K	100	295	173	290	157.2	190.5	228.6	23.9	1.6	19
						350	162	190	235	24	3	23



1/2"-2"



2 1/2"-4"

SERIES 30

MODEL 336

3-Piece
3/4-Way Sanitary
Ball Valve
T-Clamp



Pressure Rating	1000WOG (1/2"-2") 800WOG (2 1/2"-4")
Material	ASTM A351-CF8M
Seat	Cavity filled PTFE
Bore Type	Standard bore
Additional Features	• L-port, T-port • ISO 5211 direct mounting pad • Surface roughness: Ra≤0.4μm

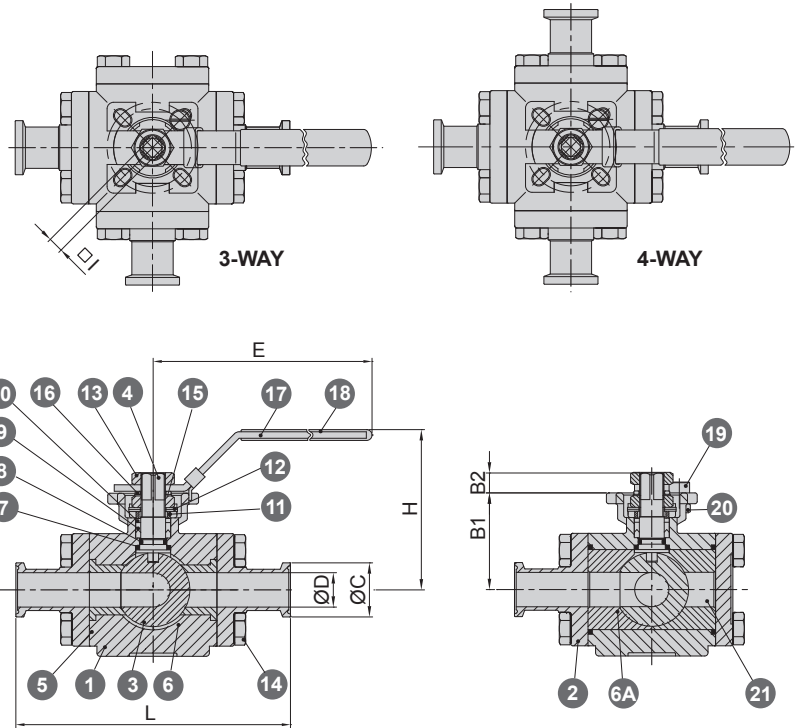
MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	4	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	JOINT GASKET	2	PTFE
6	SEAT /CAVITY FILLER	2	PTFE
6A	SEAT /CAVITY FILLER	2	PTFE
7	STEM SEAL	1	R.PTFE
8	O-RING	1	VITON
9	V-RING PACKING	1SET	PTFE
10	BUSHING	1	50%S.S.POWDER FILLED PTFE
11	GLAND	1	SUS304
12	BELLEVILLE WASHER	2	SUS304
13	STEM NUT	2	SUS304
14	BOLT	16	SUS304
15	LOCK SADDLE	1	SUS304
16	WASHER	1	SUS304
17	HANDLE	1	SUS304
18	HANDLE SLEEVE	1	VINYL
19	STOP PIN	1	SUS304
20	NUT	1	SUS304
21	PLUG	1	PTFE

DIMENSIONS (mm)

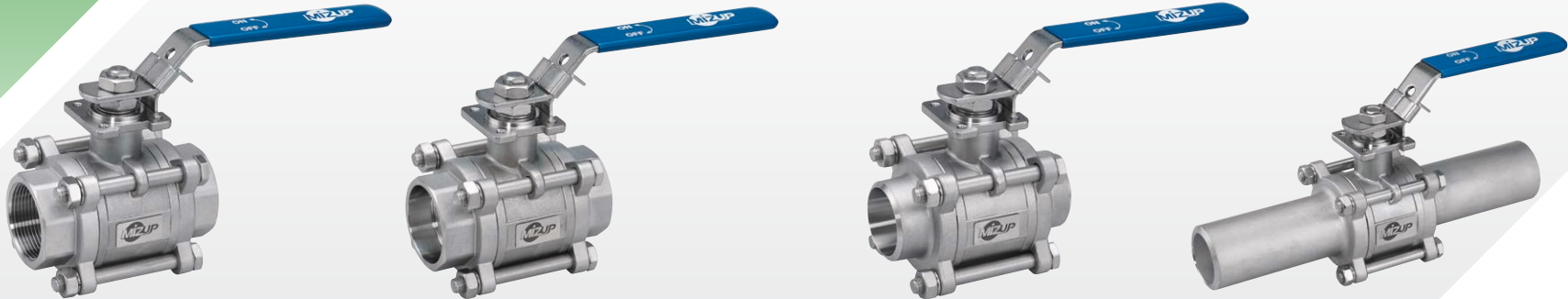
SIZE	B1	B2	ØC	ØD	E	H	ØI	L	ISO 5211
1/2"	41.5	9	25	9.5	128	71.8	9	118	F03 F04
3/4"	44.7	9	25	15.9	128	75.1	9	127	F03 F04
1"	53.6	14	50.4	22.2	167	87	11	152.6	F04 F05
1 1/2"	67.4	15.5	50.4	35	215	101.3	14	175	F05 F07
2"	76.7	15.5	64.5	47.6	215	110.6	14	201.4	F05 F07
2 1/2"	96.6	16.5	77.7	60.3	322	149.3	17	227.7	F07 F10
3"	109.3	16.5	90.9	73	322	162	17	260.6	F07 F10
4"	132	21.5	118.9	97.4	320	185.5	22	290.5	F10

PORT TYPE	1	2	3	4
T				
L				



SERIES 70

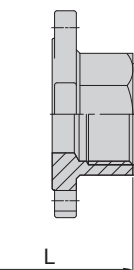
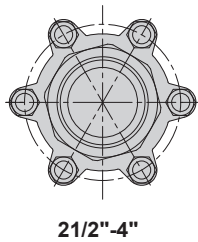
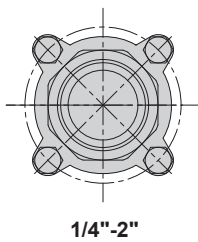
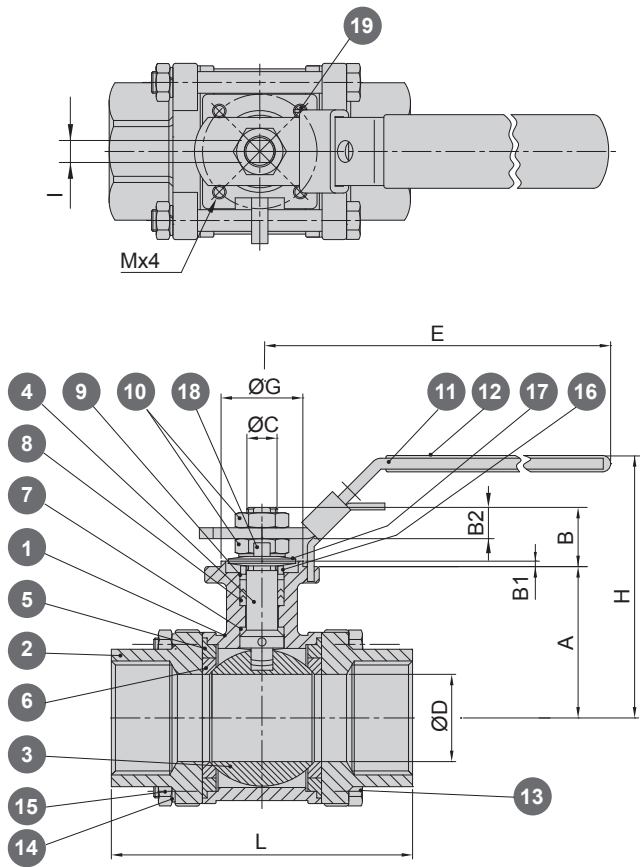
MODEL
701 / 702
703 / 704
3-Piece Ball Valve



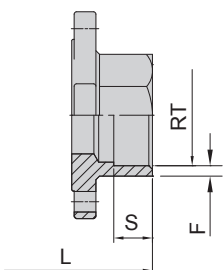
Pressure Rating	PN64 (1/4"-2")
	PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	PTFE, TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	- Available connections: Threaded, Socket weld, Butt weld, Extended butt weld - Anti-static device (Ball-stem-body) - Able to mount actuators with extra parts

MATERIALS LIST

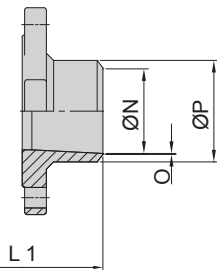
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408 (CF8M)
2	END CAP	2	1.4408 (CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	JOINT GASKET	2	PTFE
6	SEAT	2	PTFE
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	STEM NUT	2	SUS304
11	HANDLE LOCK	1	SUS304
12	HANDLE SLEEVE	1	VINYL
13	BOLT	4~6	SUS304
14	WASHER	4~12	SUS304
15	BOLT NUT	4~12	SUS304
16	GLAND	1	SUS304
17	BELLEVILLE WASHER	2	SUS304
18	LOCK SADDLE	1	SUS304
19	STOP PIN	1	SUS304



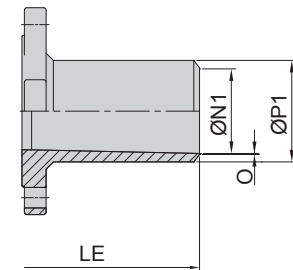
MODEL 701
Threaded
End



MODEL 702
Socket Weld
End



MODEL 703
Butt Weld
End



MODEL 704
Extended Butt
Weld End

DIMENSIONS (mm)

SIZE	A	B	B1	B2	ØC	ØD	E	F	ØG	H	I	L	L1	LE	M	ØN	ØN1	O	ØP	ØP1	RT	S	ISO 5211
1/4"	37	18.8	2	9.3	9.5	11.6	136	3.6	25	72	6.3	60	70	-	M5	11.6	-	1	18	-	14.2	11	F03
3/8"	37	18.8	2	9.3	9.5	12.5	136	2	25	72	6.3	60	70	-	M5	14	-	1	18	-	17.7	11	F03
1/2"	37	18.8	2	9.3	9.5	15	136	2	25	72	6.3	69	69	225	M5	17	15.6	1	22.7	21	21.9	12	F03
3/4"	40.3	18.8	2	9.3	9.5	20	136	2.6	25	74	6.3	78	78	225	M5	22.5	20.7	1	27.8	26.8	27.3	14	F03
1"	50	20.4	2	10.7	11.1	25	152	3.2	30	92	8	84	84	244	M5	26	25.8	1	33.5	34.4	34.1	14	F04
1 1/4"	55.5	20.4	2	10.7	11.1	32	152	5.35	30	98	8	104	104	253	M5	34.4	33.3	1	42.2	43.4	42.8	15	F04
1 1/2"	63	26.8	3	12.6	14.3	38	190	5.7	35	109	9.5	118	119	258	M6	41.5	40.5	1	49	49.8	48.8	17	F05
2"	71.3	26.8	3	12.6	14.3	50	190	6.1	35	117	9.5	129	131	275	M6	53	51.5	1	61	61	61.3	19	F05
2 1/2"	89.9	33.5	3	17	19.1	65	287	7.15	55	147	15	185	190	332	M8	69.4	65	1	75.7	77	74	21	F07
3"	99	33.9	3	17	19.1	80	304	7.6	70	156	15	205	220	354	M10	82	81	1	91.6	91	90	25	F10
4"	120	33.9	3	17	25.4	100	440	7.85	70	178	15	230	269	360	M10	103	101	1	115.8	115	115.6	30	F10

SERIES 70

MODEL 704LV

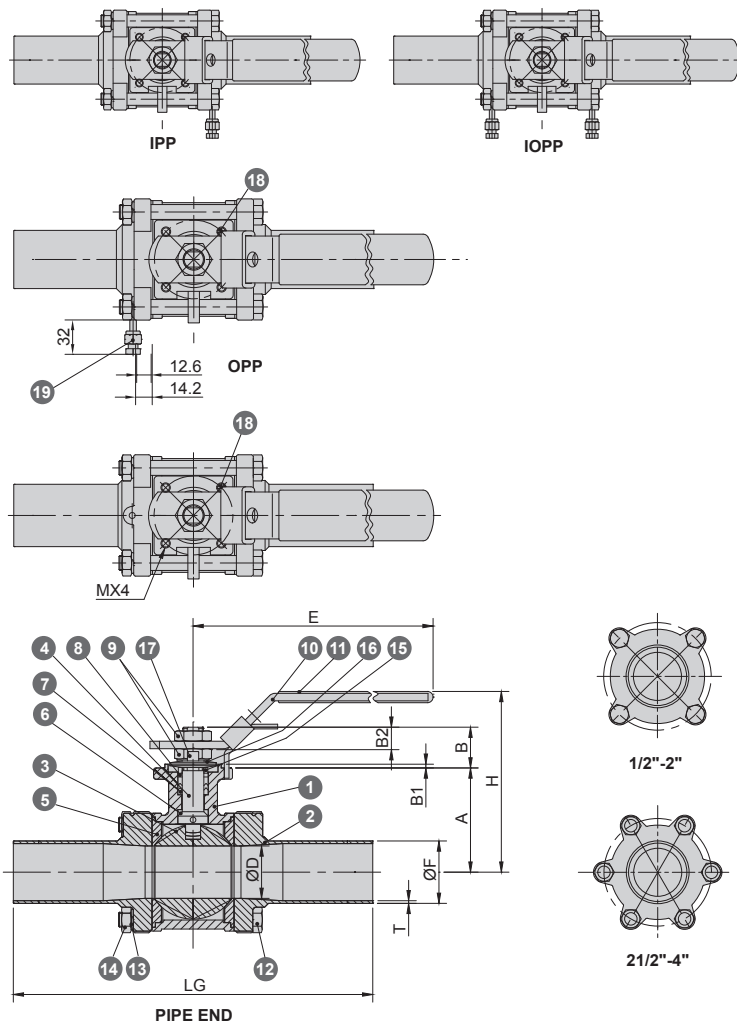
3-Piece High Purity Ball Valve
Tube / Pipe



Pressure Rating	PN64 (3/8"-2") PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600
Bore Type	Pipe end: Full bore, Tube end: Standard bore
Additional Features	- Oil-free product - Pipe end: 5S (SCH5), 10S (SCH10) - Surface roughness: AP Grade (Ra≤0.8μm), BA Grade (Ra≤0.25μm) - Anti-static device (Ball-stem-body) - Able to mount actuators with extra parts - Purge port (Optional)

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408 (CF8M)
2	END CAP	2	1.4409 (CF3M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	STEM SEAL	1	R.PTFE
7	V-RING PACKING	1SET	PTFE
8	BUSHING	1	50%S.S.POWDER FILLED PTFE
9	STEM NUT	2	SUS304
10	HANDLE	1	SUS304
11	HANDLE SLEEVE	1	VINYL
12	BOLT	4~6	SUS304
13	WASHER	4~12	SUS304
14	BOLT NUT	4~12	SUS304
15	GLAND	1	SUS304
16	BELLEVILLE WASHER	2	SUS304
17	LOCK SADDLE	1	SUS304
18	STOP PIN	1	SUS304
19	PURGE PORT	0~2	SUS304



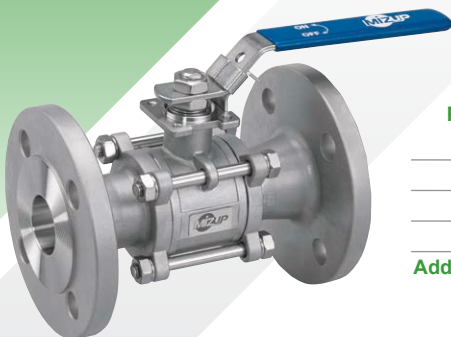
DIMENSIONS (mm)

SIZE		A	B	B1	B2	t	Øf	ØD	ØF	E	H	L	M	T		LG	ISO 5211
														5S	10S		
3/8"	10A	37	18.8	2	9.3	-	-	9.6	17.3	136	72	-	M5	1.24	1.65	125.4	F03
1/2"	15A	37	18.8	2	9.3	1.65	12.7	15	21.7	136	72	39	M5	1.65	2.1	150.8	F03
3/4"	20A	40.3	18.8	2	9.3	1.65	19.05	20	27.2	136	74	41.8	M5	1.65	2.1	155.7	F03
1"	25A	50	20.4	2	10.7	1.65	25.4	25	34	152	92	43.4	M5	1.65	2.8	186.2	F04
1 1/4"	32A	55.5	20.4	2	10.7	1.65	31.8	32	42.7	152	98	50	M5	1.65	2.8	195.6	F04
1 1/2"	40A	63	26.8	3	12.6	1.65	38.1	38	48.6	190	109	54.4	M6	1.65	2.8	231.6	F05
2"	50A	71.3	26.8	3	12.6	1.65	50.8	50	60.5	190	117	46.8	M6	1.65	2.8	243.4	F05
2 1/2"	65A	89.9	33.5	3	17	1.65	63.5	65	76.3	300	147	71	M8	2.1	3.0	290.2	F07
3"	80A	99	33.9	3	17	1.65	76.2	80	89.1	322	156	72	M10	2.1	3.0	302.2	F10
4"	100A	120	33.9	3	17	2.11	101.6	100	114.3	440	178	70	M10	2.1	3.0	326.2	F10

SERIES 70

MODEL 705

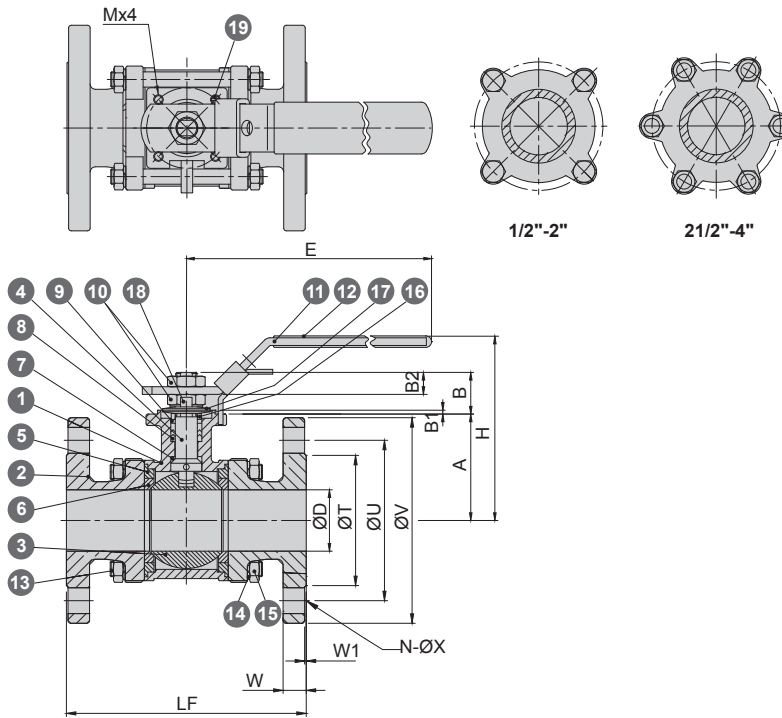
3-Piece Ball Valve
Flanged



Pressure Rating	PN64 (1/2"-2") PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	PTFE, TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	- Available connections: ANSI class 150, JIS 10K, DIN PN40 - Anti-static device (Ball-stem-body) - Able to mount actuators with extra parts

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408 (CF8M)
2	END CAP	2	1.4408 (CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	JOINT GASKET	2	PTFE
6	SEAT	2	PTFE
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	STEM NUT	2	SUS304
11	HANDLE LOCK	1	SUS304
12	HANDLE SLEEVE	1	VINYL
13	BOLT	4~6	SUS304
14	WASHER	4~12	SUS304
15	BOLT NUT	4~12	SUS304
16	GLAND	1	SUS304
17	BELLEVILLE WASHER	2	SUS304
18	LOCK SADDLE	1	SUS304
19	STOP PIN	1	SUS304



DIMENSIONS (mm)

SIZE	FLANGED	A	B	B1	B2	øD	E	H	LF	øT	øU	øV	W	W1	øX	N	M	ISO 5211
1/2"	150 LB	37	18.8	2	9.3	15	136	72	108	35	60.4	89	11.2	1.6	16	4	M5	F03
	PN40								131.1	47.3	65	95	16	2	14			
	10K								108	52	70	95	12	1	15			
3/4"	150 LB	40.3	18.8	2	9.3	20	136	74	117	43	69.9	98.4	12.7	1.6	16	4	M5	F03
	PN40								150	58	75	105	18	2	14			
	10K								117	58	75	100	14	1	15			
1"	150 LB	50	20.4	2	10.7	25	152	92	127	50.8	79.4	108	14.3	1.6	16	4	M5	F04
	PN40								160	69	85	115	18	2	14			
	10K								127	70	90	125	14	1	19			
1 1/4"	150 LB	55.5	20.4	2	10.7	32	152	98	146	64	88.9	117.5	15.9	1.6	16	4	M5	F04
	PN40								182	78.8	100	140	18	2	18			
	10K								146	80	100	135	16	2	19			
1 1/2"	150 LB	63	26.8	3	12.6	38	190	109	165	73	98.5	127	17.5	1.6	16	4	M6	F05
	PN40								200	90	110	150	18	3	18			
	10K								165	85	105	140	16	2	19			
2"	150 LB	71.3	26.8	3	12.6	50	190	117	192	92	120.7	152.4	19.1	1.6	19	4	M6	F05
	PN40								230	106	125	165	20	3	18			
	10K								178	100	120	155	16	2	19			
2 1/2"	150 LB	89.9	33.5	3	17	65	287	147	232	104.8	139.7	177.8	22.3	1.6	19	4	M8	F07
	PN40								290	122	145	185	22	3	18			
	10K								232	120	140	175	18	2	19			
3"	150 LB	99	33.9	3	17	80	304	156	255	127	152.4	190.5	23.9	1.6	19	4	M10	F10
	PN40								310	138	160	200	24	3	18			
	10K								255	130	150	185	18	2	19			
4"	150 LB	120	33.9	3	17	100	440	178	290	157.2	190.5	228.6	23.9	1.6	19	8	M10	F10
	PN40								350	162	190	235	24	3	23			
	10K								290	155	175	210	18	2	19			

SERIES 70

MODEL
706 / 707

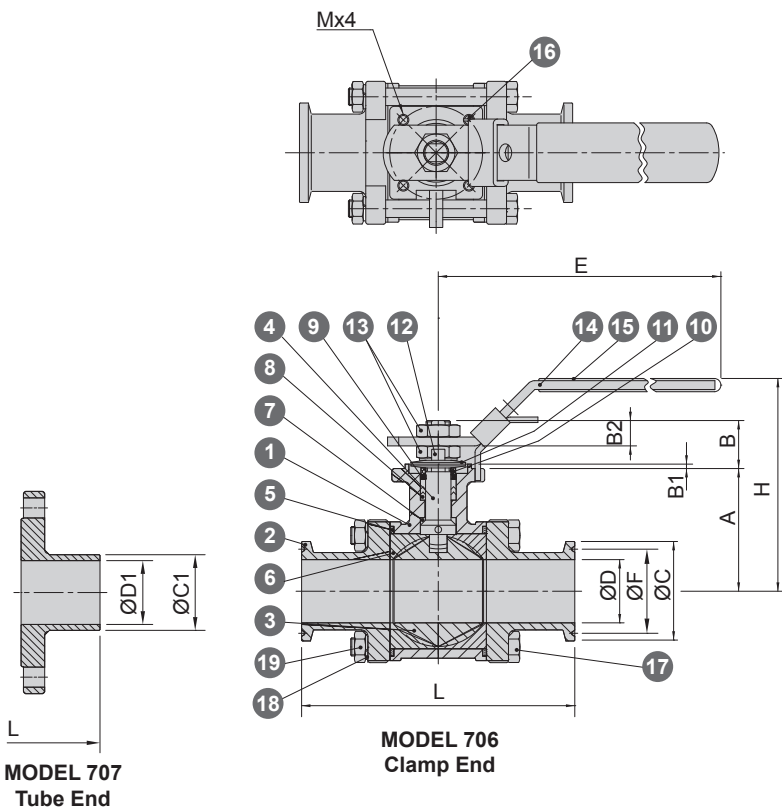
3-Piece Sanitary
Ball Valve
T-Clamp / Tube



Pressure Rating	PN64 (1/2"-2") PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	Cavity filled PTFE, Non-cavity filled TFM1600
Bore Type	Standard bore
Additional Features	▪ Anti-static device (Ball-stem-body) ▪ Surface roughness: Ra≤0.4μm ▪ Able to mount actuators with extra parts

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	2	PTFE
6	SEAT/CAVITY FILLER	2	PTFE
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	GLAND	1	SUS304
11	BELLEVILLE WASHER	2	SUS304
12	LOCK SADDLE	1	SUS304
13	STEM NUT	2	SUS304
14	HANDLE	1	SUS304
15	HANDLE SLEEVE	1	VINYL
16	STOP PIN	1	SUS304
17	BOLT	4~6	SUS304
18	WASHER	4~12	SUS304
19	BOLT NUT	4~12	SUS304

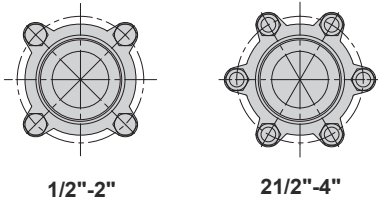


MODEL 707
Tube End

MODEL 706
Clamp End

DIMENSIONS (mm)

SIZE	A	B	B1	B2	ØC	ØD	ØC1	ØD1	ØF	E	H	L	M	ISO 5211
1/2"	37	18.8	2	9.3	25	9.5	12.7	9.4	20.24	136	72	89.1	M5	F03
3/4"	40.3	18.8	2	9.3	25	15.9	19.05	15.75	20.24	136	74	101	M5	F03
1"	50	20.4	2	10.7	50.4	22.2	25.4	22.2	43.6	152	92	114	M5	F04
1 1/2"	63	26.8	3	12.6	50.4	35	38.1	34.8	43.6	190	109	140	M6	F05
2"	71.3	26.8	3	12.6	64	47.5	50.8	47.5	56.3	190	117	156	M6	F05
2 1/2"	89.9	33.5	3	17	77.5	60.3	63.5	60.2	70.6	287	147	197	M8	F07
3"	99	33.9	3	17	90.9	73	76.2	72.9	83.3	304	156	229	M10	F10
4"	120	33.9	3	17	118.9	97.4	101.6	97.4	110.3	440	178	241	M10	F10



1/2"-2"

2 1/2"-4"

SERIES 70

MODEL 70KF-NW

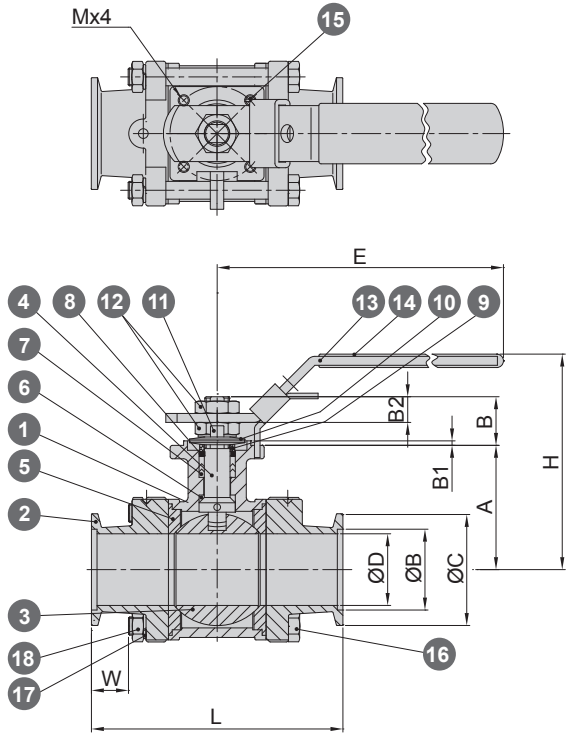
3-Piece Vacuum
Ball Valve



Pressure Rating	PN64
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600
Bore Type	Full bore
Additional Features	▪ Anti-static device (Ball-stem-body) ▪ Able to mount actuators with extra parts ▪ Vacuum rated to 1 X 10 ⁻⁴ Torr

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	PTFE
6	STEM SEAL	1	R.PTFE
7	V-RING PACKING	1SET	PTFE
8	BUSHING	1	50%S.S.POWDER FILLED PTFE
9	GLAND	1	SUS304
10	BELLEVILLE WASHER	2	SUS304
11	LOCK SADDLE	1	SUS304
12	STEM NUT	2	SUS304
13	HANDLE	1	SUS304
14	HANDLE SLEEVE	1	VINYL
15	STOP PIN	1	SUS304
16	BOLT	4	SUS304
17	WASHER	4	SUS304
18	BOLT NUT	4	SUS304



DIMENSIONS (mm)

SIZE	A	B	B1	B2	ØC	ØB	ØD	E	H	L	M	W	ISO 5211
NW10 3/8"	37	18.8	2	9.3	30	12.2	9.5	136	72	89	M5	14.5	F04
NW16 1/2"	37	18.8	2	9.3	30	17.2	15	136	72	89	M5	14.5	F04
NW25 1"	50	20.4	2	10.7	40	26.2	22.2	152	92	119	M5	22.5	F04
NW40 1 1/2"	63	26.8	3	12.6	55	41.2	38	190	109	147	M6	23	F05
NW50 2"	71.3	26.8	3	12.6	75	52.2	50	190	117	181	M6	33	F05

SERIES 85

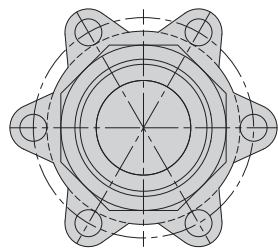
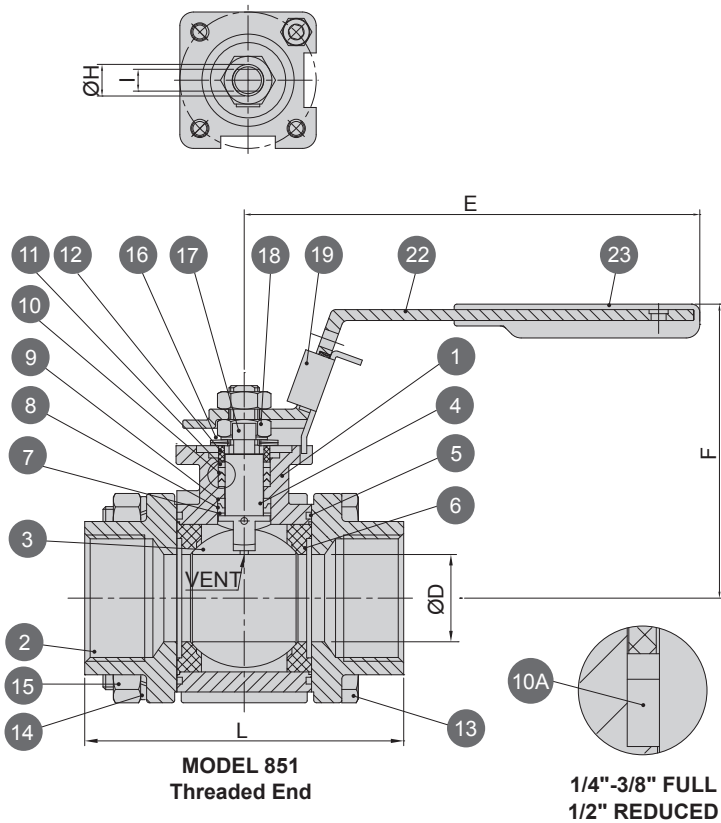
MODEL
851 / 852 / 853
3-Piece High Pressure
Ball Valve



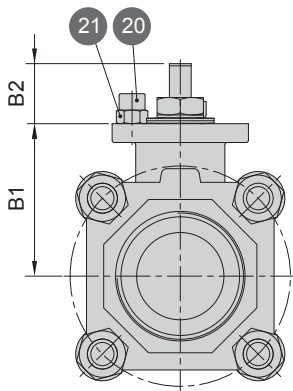
Pressure Rating	85F 1500WOG (1/4"-1")
	1000WOG (11/4"-2")
	700WOG (21/2"-3")
	85R 1500WOG (1/2"-11/4")
	1000WOG (11/2"-21/2")
Material	EN10213 1.4408 / 1.0619
	700WOG (3"-4")
Seat	TFM1600, 25%, 50%
Bore Type	Full bore, Reduced bore
Additional Features	• Available connections: Threaded, Socket weld, Butt weld
	• Anti-static device (Ball-stem-body)
	• Able to mount actuators with extra parts

MATERIALS LIST

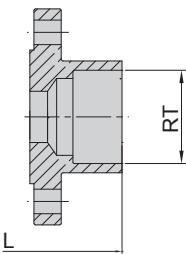
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)/ 1.0619(WCB)
2	END CAP	2	1.4408(CF8M)/ 1.0619(WCB)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	2	PTFE
6	SEAT	2	25% CARBON FILLED PTFE
7	LOWER STEM SEAL	1	50%S.S.POWDER FILLED PTFE
8	COMPRESS RING	1	SUS316
9	UPPER STEM SEAL	1	TFM4215
10	V-RING PACKING	1SET	MG1241
10A	STEM PACKING	1	TFM4215
11	BUSHING	1	50%S.S.POWDER FILLED PTFE
12	GLAND	1	SUS304
13	BOLT	4-6	SUS304
14	WASHER	4-6	SUS304
15	BOLT NUT	4-6	SUS304
16	BELLEVILLE WASHER	2	SUS304
17	LOCK SADDLE	1	SUS304
18	STEM NUT	2	SUS304
19	LOCKING DEVICE	1	SUS304
20	STOP PIN	1	SUS304
21	STOP PIN NUT	1	SUS304
22	HANDLE	1	CF8
23	HANDLE SLEEVE	1	VINYL



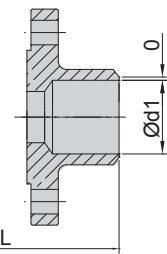
* 2"-3" FULL
* 21/2"-4" REDUCED



* 1/4"-1 1/2" FULL
* 1/2"-2" REDUCED



MODEL 852
Socket Weld End



MODEL 853
Butt Weld End

DIMENSIONS (mm)

SIZE		B1		B2		ØD		Ød1		E		F		ØH		I		L		O		RT		ISO5211		
		F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	
1/4"	DN8	27.7	-	12.7	-	11.2	-	9.5	-	120	-	66	-	8.0	-	5.0	-	66.8	-	0.5	-	14.1	-	F03	-	
3/8"	DN10	27.7	-	12.7	-	12.7	-	12.7	-	120	-	66	-	8.0	-	5.0	-	66.8	-	0.5	-	17.5	-	F03	-	
1/2"	DN15	38.1	27.7	15	12.7	15	12.7	15.6	15.8	134	120	84	66	9.7	8.0	6.3	5.0	71.0	66.8	0.5	0.5	22.4	22.4	F04	F03	
3/4"	DN20	41.8	38.1	20	15	20	15	20.7	21	134	134	88	84	9.7	9.7	6.3	6.3	96.5	71.0	0.5	0.5	27.4	27.4	F04	F04	
1"	DN25	51.6	41.8	21.4	20	25.4	20	26.6	26.6	167	134	98	88	11.2	9.7	8.0	6.3	109.1	96.5	0.5	0.5	34.2	34.2	F05	F04	
1 1/4"	DN32	54.9	51.6	21.7	21.4	32	25.4	35.6	35.1	167	167	101	98	11.2	11.2	8.0	8.0	117.0	109.1	0.5	0.5	43.0	43.0	F05	F05	
1 1/2"	DN40	66.2	54.9	25.6	21.7	38	32	41.2	41.2	204	167	117	101	16.0	11.2	9.5	8.0	129.3	117.0	0.5	0.5	49.0	49.0	F07	F05	
2"	DN50	75.4	66.2	25.2	25.6	50.8	38	53	53	204	204	125	117	16.0	16.0	9.5	9.5	141.4	129.3	1.0	1.0	61.1	61.1	F07	F07	
2 1/2"	DN65	89.4	75.4	42.7	25.2	65	50.8	68.4	68.4	250	204	165	125	22.3	16.0	17.0	9.5	173.9	141.4	1.0	1.0	77.1	77.1	F10	F07	
3"	DN80	101.2	89.4	39.4	42.7	76	65	77.8	77.8	250	250	174	165	22.3	22.3	17.0	17.0	193.1	173.9	1.6	1.6	90.2	90.2	F10	F10	
4"	DN100	-	101.2	-	39.4	-	76	-	102.5	-	250	-	174	-	22.3	-	17.0	-	193.1	-	1.6	-	115.1	-	-	F10

SERIES 90

MODEL
901 / 902
903 / 904

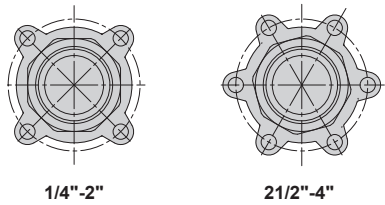
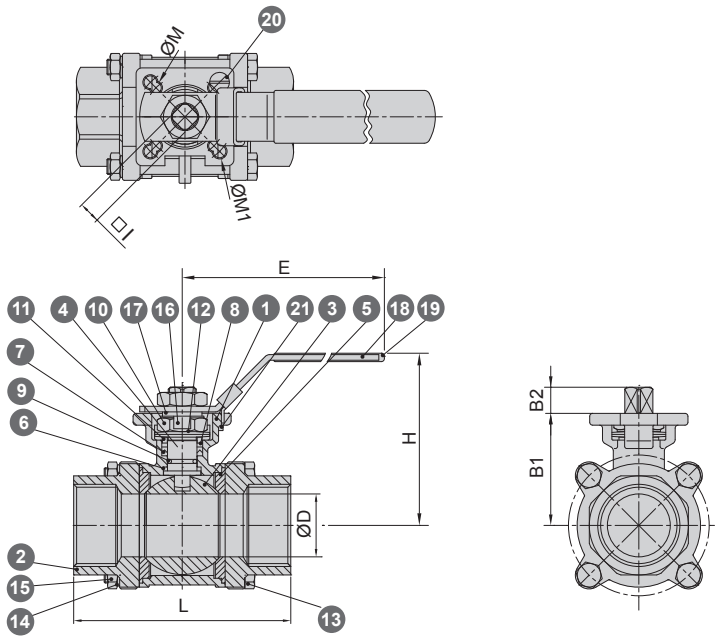
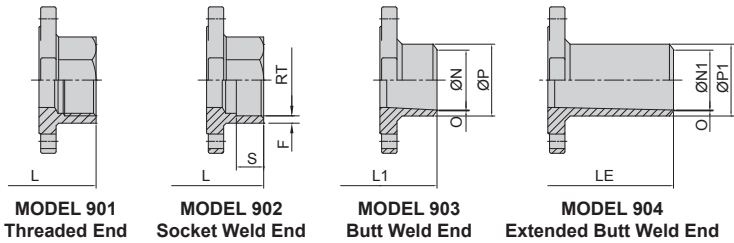
3-Piece Ball Valve



Pressure Rating	PN64 (1/4"-2") PN50 (2 1/2"-4") PN16 (5"- 6")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	• Available connections: Threaded, Socket weld, Butt weld, Extended butt weld • ISO 5211 direct mounting pad • Able to add anti-static device (Ball-stem-body)

MATERIALS LIST (1/4"- 4")

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	STEM SEAL	1	R.PTFE
7	V-RING PACKING	1SET	PTFE
8	BUSHING	1	50%S.S.POWDER FILLED PTFE
9	O-RING	1	VITON
10	STEM NUT	1	SUS304
11	GLAND	1	SUS304
12	BELLEVILLE WASHER	2	SUS304
13	BOLT	4~6	SUS304
14	WASHER	4~12	SUS304
15	BOLT NUT	4~12	SUS304
16	LOCK SADDLE	1	SUS304
17	WASHER	1	SUS304
18	HANDLE	1	SUS304
19	HANDLE SLEEVE	1	VINYL
20	STOP PIN	1	SUS304
21	STOP PIN NUT	1	SUS304

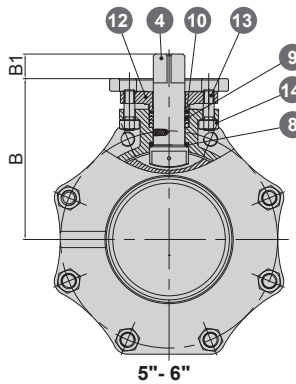
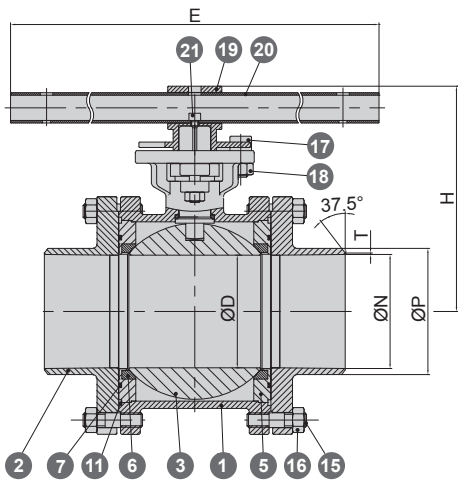
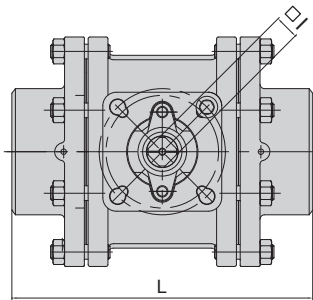


DIMENSIONS (mm)

SIZE	B1	B2	ØD	E	F	H	ØI	L	L1	LE	ØM	ØM1	ØN	ØN1	O	ØP	ØP1	RT	S	ISO 5211
1/4"	40.2	9	11.6	128	3.6	70.5	9	60	70	-	6	6	11.6	-	1	18	-	14.2	11	F03 F04
3/8"	40.2	9	12.5	128	2	70.5	9	60	70	-	6	6	14	-	1	18	-	17.7	11	F03 F04
1/2"	40.2	9	15	128	2	70.5	9	69	69	225	6	6	17	15.6	1	22.7	21	21.9	12	F03 F04
3/4"	43.4	9	20	128	2.6	73.8	9	78	78	225	6	6	22.5	20.7	1	27.8	26.8	27.3	14	F03 F04
1"	52	14	25	167	3.2	85.4	11	84	84	244	6	7	26	25.8	1	33.5	34.4	34.1	14	F04 F05
1 1/4"	56.5	14	32	167	5.35	90	11	104	104	253	6	7	34.4	33.3	1	42.2	43.4	42.8	15	F04 F05
1 1/2"	65.7	15.5	38	215	5.7	99.6	14	118	119	258	7	9.2	41.5	40.5	1	49	49.8	48.8	17	F05 F07
2"	73.95	15.5	50	215	6.1	107.8	14	129	131	275	7	9.2	53	51.5	1	61	61	61.3	19	F05 F07
2 1/2"	94	16.5	65	322	7.15	145.7	17	185	190	332	9	11	69.4	65	1	75.7	77	74	21	F07 F10
3"	102	16.5	80	322	7.6	154.7	17	205	220	354	9	11	82	81	1	91.6	91	90	25	F07 F10
4"	132	21.5	100	320	7.85	188	22	230	269	360	-	11	103	101	1	115.8	115	115.6	30	F10

MATERIALS LIST (5"- 6")

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4409(CF3M)
3	BALL	1	SUS316
4	STEM	1	630(H1150)
5	JOINT GASKET	2	SUS316
6	SEAT	2	TFM1600
7	PACKING	2	PTFE
8	STEM SEAL	1	PTFE
9	V-RING PACKING	1SET	PTFE
10	BUSHING	1	50%S.S.POWDER FILLED PTFE
11	PACKING	2	PTFE
12	GLAND	1	CF8
13	GLAND BOLT	2	SUS304
14	GLAND NUT	2	SUS304
15	BOLT	16	SUS304
16	NUT	16	SUS304
17	STOP PIN	1	SUS304
18	STOP PIN NUT	1	SUS304
19	HANDLE ADAPTOR	1	CF8
20	PIPE HANDLE	1	SUS304
21	HANDLE BOLT	1	SUS304



MODEL 903
Butt Weld
End

DIMENSIONS (mm)

SIZE	B	B1	ØD	E	H	ØI	L	ØN	ØP	T	ISO 5211
5" 125A	178.5	27	125	600	250	27	334	126.6	139.8	1.6	F12 F14
6" 150A	196	27	150	800	267.5	27	363	151	168.4	1.6	F12 F14

SERIES 90

MODEL 904LV

3-Piece Ball Valve

Tube / Pipe

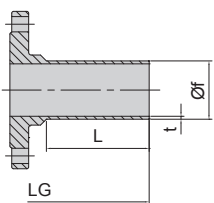
(3/8" - 4")



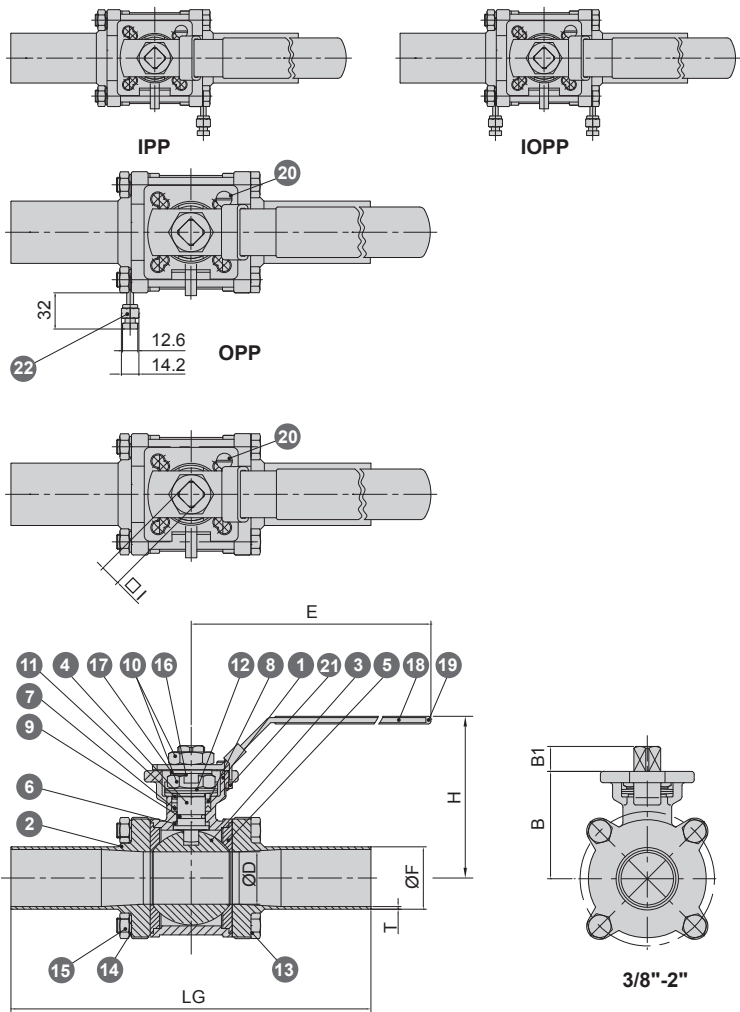
Pressure Rating	PN64 (3/8"-2")
	PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600
Bore Type	Pipe end: Full bore, Tube end: Standard bore
Additional Features	• Oil-free product
	• Pipe end: 5S (SCH5), 10S (SCH10)
	• AP Grade (Ra≤0.8μm), BA Grade (Ra≤0.25μm)
	• ISO 5211 direct mounting pad
	• Able to add anti-static device (Ball-stem-body)
	• Purge port (Optional)

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408 (CF8M)
2	END CAP	2	1.4409 (CF3M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	STEM SEAL	1	R.PTFE
7	V-RING PACKING	1SET	PTFE
8	BUSHING	1	50%S.S.POWDER FILLED PTFE
9	O-RING	1	VITON
10	STEM NUT	2	SUS304
11	GLAND	1	SUS304
12	BELLEVILLE WASHER	2	SUS304
13	BOLT	4~6	SUS304
14	WASHER	4~12	SUS304
15	BOLT NUT	4~12	SUS304
16	LOCK SADDLE	1	SUS304
17	WASHER	1	SUS304
18	HANDLE	1	SUS304
19	HANDLE SLEEVE	1	VINYL
20	STOP PIN	1	SUS304
21	STOP PIN NUT	1	SUS304
22	PURGE PORT	0~2	SUS304



Tube End



Pipe End

DIMENSIONS (mm)

SIZE	B	B1	t	E	Øf	ØD	ØF	H	DI	L	T		LG	ISO 5211
											5S	10S		
3/8"	10A	40.2	9	-	128	-	9.6	17.3	70.5	9	1.24	1.65	125.4	F03 F04
1/2"	15A	40.2	9	1.65	128	12.7	15	21.7	70.5	9	1.65	2.1	150.8	F03 F04
3/4"	20A	43.4	9	1.65	128	19.05	20	27.2	73.8	9	1.65	2.1	155.7	F03 F04
1"	25A	52	14	1.65	167	25.4	25	34	85.4	11	1.65	2.8	186.2	F04 F05
1 1/4"	32A	56.5	14	1.65	167	31.8	32	42.7	90	11	1.65	2.8	195.6	F04 F05
1 1/2"	40A	65.7	15.5	1.65	215	38.1	38	48.6	99.6	14	1.65	2.8	231.6	F05 F07
2"	50A	73.95	15.5	1.65	215	50.8	50	60.5	107.8	14	1.65	2.8	243.4	F05 F07
2 1/2"	65A	94	16.5	1.65	322	63.5	65	76.3	145.7	17	2.1	3.0	290.2	F07 F10
3"	80A	102	16.5	1.65	322	76.2	80	89.1	154.7	17	2.1	3.0	302.2	F07 F10
4"	100A	132	21.5	2.11	320	101.6	100	114.3	188	22	2.1	3.0	326.2	F10

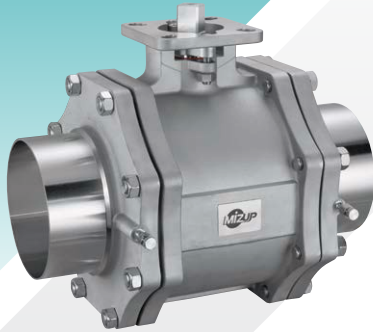
SERIES 90

MODEL 904LV

3-Piece Ball Valve

Tube / Pipe

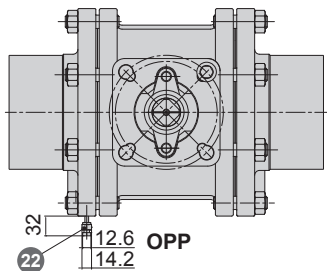
(5" - 6")



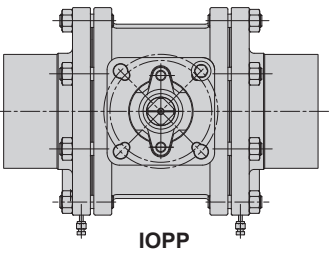
Pressure Rating	PN16 (5"-6")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600
Bore Type	Pipe end: Full bore, Tube end: Standard bore
Additional Features	• Oil-free product
	• Pipe end: 5S (SCH5), 10S (SCH10)
	• AP Grade (Ra≤0.8μm), BA Grade (Ra≤0.25μm)
	• ISO 5211 direct mounting pad
	• Able to add anti-static device (Ball-stem-body)

MATERIALS LIST

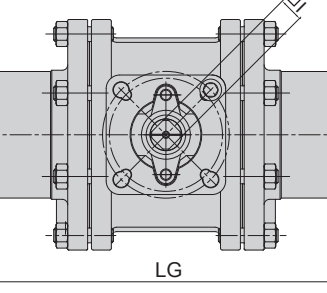
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408 (CF8M)
2	END CAP	2	1.4409 (CF3M)
3	BALL	1	SUS316
4	STEM	1	630 (H1150)
5	JOINT GASKET	2	SUS316
6	SEAT	2	TFM1600
7	PACKING	2	PTFE
8	STEM SEAL	1	PTFE
9	V-RING PACKING	1SET	PTFE
10	BUSHING	1	50%S.S.POWDER FILLED PTFE
11	PACKING	2	PTFE
12	GLAND	1	CF8
13	GLAND BOLT	2	SUS304
14	GLAND NUT	2	SUS304
15	BOLT	16	SUS304
16	NUT	16	SUS304
17	STOP PIN	1	SUS304
18	STOP PIN NUT	1	SUS304
19	HANDLE ADAPTOR	1	CF8
20	PIPE HANDLE	1	SUS304
21	HANDLE BOLT	1	SUS304
22	PURGE PORT	0~2	SUS304



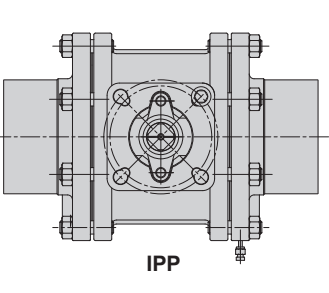
Tube End



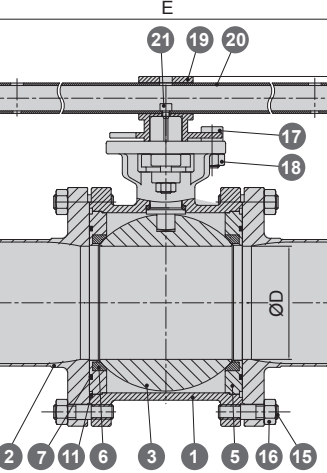
Pipe End



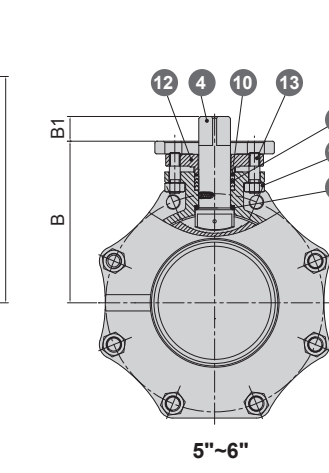
Tube End



Pipe End



Tube End



Pipe End

DIMENSIONS (mm)

SIZE	B	B1	t	Øf	ØD	E	ØF	H	DI	L	T		LG	ISO 5211
											5S	10S		
5" 125A	178.5	27	2.77	127	125	600	139.8	250	27	63	2.8	3.4	386	F12 F14
6" 150A	196	27	2.77	152.4	150	800	165.2	267.5	27	63	2.8	3.4	415	F12 F14

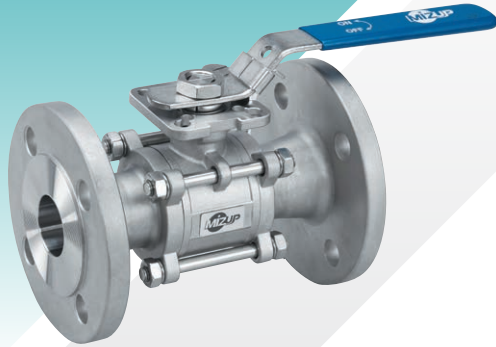
SERIES 90

MODEL 905

3-Piece Ball Valve

Flanged

(1/2" - 4")



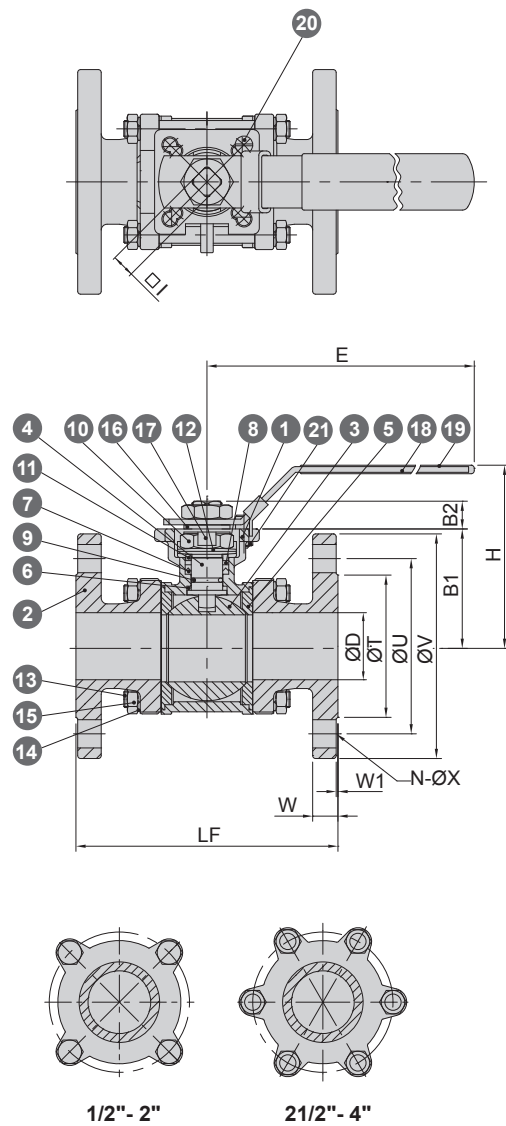
Pressure Rating	PN64 (1/2"-2") PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600, 25%, 50%
Bore Type	Full bore
Additional Features	- Available connections: ANSI Class 150, JIS 10K, DIN PN40 - ISO 5211 direct mounting pad 1/2"-2": Needs extra parts to mount an actuator - Able to add anti-static device (Ball-stem-body)

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	STEM SEAL	1	R.PTFE
7	V-RING PACKING	1SET	PTFE
8	BUSHING	1	50 %S.S.POWDER FILLED PTFE
9	O-RING	1	VITONE
10	STEM NUT	2	SUS304
11	GLAND	1	SUS304
12	BELLEVILLE WASHER	2	SUS304
13	BOLT	4~6	SUS304
14	WASHER	8~12	SUS304
15	BOLT NUT	4~12	SUS304
16	LOCK SADDLE	1	SUS304
17	WASHER	1	SUS304
18	HANDLE	1	SUS304
19	HANDLE SLEEVE	1	VINYL
20	STOP PIN	1	SUS304
21	STOP PIN NUT	1	SUS304

DIMENSIONS (mm)

SIZE	FLANGED	ØD	B1	B2	E	H	□I	LF	ØT	ØU	ØV	W	W1	ØX	N	ISO 5211
1/2"	150 LB							108	35	60.4	89	11.2	1.6	16		
	PN40 10K	15	40.2	9	128	70.5	9	131.1	47.3	65	95	16	2	14	4	F03 F04
3/4"	150 LB							117	43	69.9	98.4	12.7	1.6	16		
	PN40 10K	20	43.4	9	128	73.8	9	150	58	75	105	18	2	14	4	F03 F04
1"	150 LB							127	50.8	79.4	108	14.3	1.6	16		
	PN40 10K	25	52	14	167	85.4	11	160	69	85	115	18	2	14	4	F04 F05
1 1/4"	150 LB							146	64	88.9	117.5	15.9	1.6	16		
	PN40 10K	32	56.5	14	167	90	11	182	78.8	100	140	18	2	18	4	F04 F05
1 1/2"	150 LB							165	73	98.5	127	17.5	1.6	16		
	PN40 10K	38	65.7	15.5	215	99.6	14	200	90	110	150	18	3	18	4	F05 F07
2"	150 LB							192	92	120.7	152.4	19.1	1.6	19		
	PN40 10K	50	73.95	15.5	215	107.8	14	230	106	125	165	20	3	18	4	F05 F07
2 1/2"	150 LB							232	104.8	139.7	177.8	22.3	1.6	19	4	
	PN40 10K	65	94	16.5	322	145.7	17	290	122	145	185	22	3	18	8	F07 F10
3"	150 LB							255	127	152.4	190.5	23.9	1.6	19	4	
	PN40 10K	80	102	16.5	322	154.7	17	310	138	160	200	24	3	18	8	F07 F10
4"	150 LB							290	157.2	190.5	228.6	23.9	1.6	19		
	PN40 10K	100	132	21.5	320	188	22	350	162	190	235	24	3	23	8	F10



SERIES 90

MODEL 905

3-Piece Ball Valve

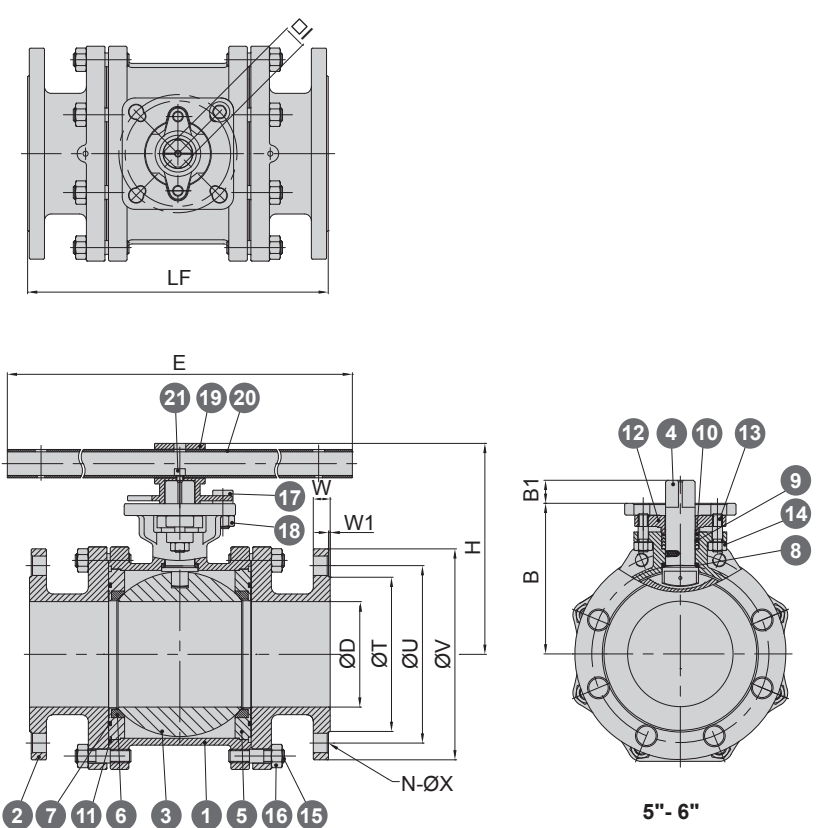
Flanged

(5" - 6")

Pressure Rating	PN16 (5"-6") EN10213-1.4408, ASTM A351-CF8M
Material	TFM1600, 25%, 50%
Seat	Full bore
Bore Type	Available connections: ANSI Class 150, JIS 10K, DIN PN40
Additional Features	- ISO 5211 direct mounting pad 1/2"-2": Needs extra parts to mount an actuator - Able to add anti-static device (Ball-stem-body)

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	630(H1150)
5	JOINT GASKET	2	SUS316
6	SEAT	2	TFM1600
7	PACKING	2	PTFE
8	STEM SEAL	1	PTFE
9	V-RING PACKING	1SET	PTFE
10	BUSHING	1	50%S.S.POWDER FILLED PTFE
11	PACKING	2	PTFE
12	GLAND	1	CF8
13	GLAND BOLT	2	SUS304
14	GLAND NUT	2	SUS304
15	BOLT	16	SUS304
16	NUT	16	SUS304
17	STOP PIN	1	SUS304
18	STOP PIN NUT	1	SUS304
19	HANDLE ADAPTOR	1	CF8
20	PIPE HANDLE	1	SUS304
21	HANDLE BOLT	1	SUS304



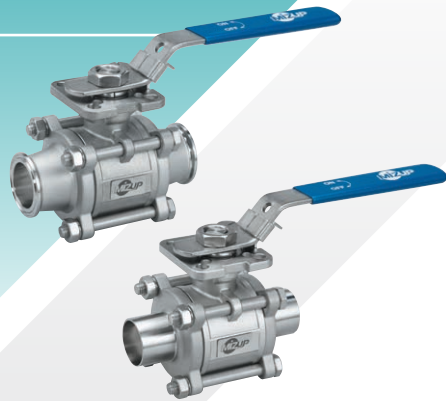
DIMENSIONS (mm)

SIZE	FLANGED	B	B1	ØD	E	H	□I	LF	ØT	ØU	ØV	W	W1	N	ØX	ISO 5211
5"	150 LB	178.5	27	125	600	250	27	356	187.5	215.9	254	23.9	1.6	8	22.4	F12 F14
	10K	178.5	27	125	600	250	27	356	185	210	250	20	2	8	23	F12 F14
6"	150 LB	196	27	150	800	267.5	27	394	214.2	241.3	279.4	25.4	1.6	8	22.4	F12 F14
	10K	196	27	150	800	267.5	27	394	217.3	240	280	22	2	8	23	F12 F14

SERIES 90

MODEL
906 / 907

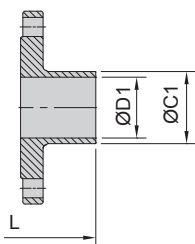
3-Piece Sanitary Ball Valve
T-Clamp / Tube
(1/2" - 4")



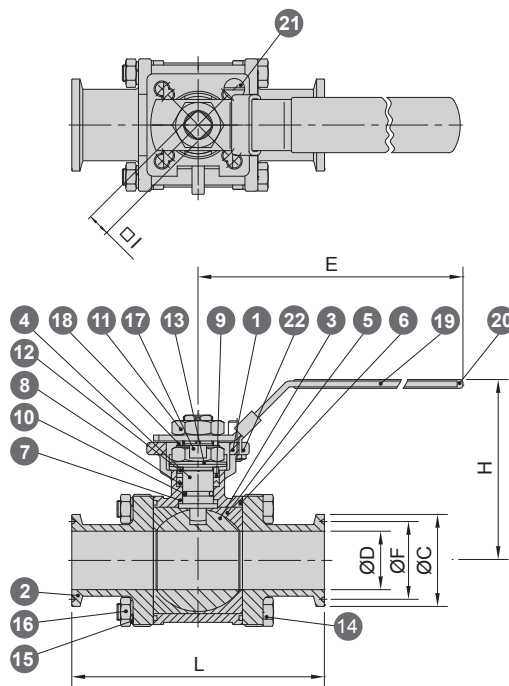
Pressure Rating	PN64 (1/2"-2") PN50 (2 1/2"-4")
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	Cavity filled PTFE, Non-cavity filled TFM1600
Bore Type	Standard bore
Additional Features	▪ Surface roughness: Ra≤0.4μm ▪ ISO 5211 direct mounting pad ▪ Able to add anti-static device (Ball-stem-body)

MATERIALS LIST

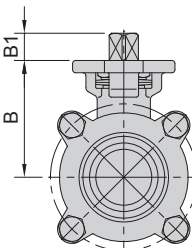
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	2	PTFE
6	SEAT/CAVITY FILLER	2	PTFE
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	O-RING	1	VITON
11	STEM NUT	2	SUS304
12	GLAND	1	SUS304
13	BELLEVILLE WASHER	2	SUS304
14	BOLT	4~6	SUS304
15	WASHER	4~12	SUS304
16	BOLT NUT	4~12	SUS304
17	LOCK SADDLE	1	SUS304
18	WASHER	1	SUS304
19	HANDLE	1	SUS304
20	HANDLE SLEEVE	1	VINYL
21	STOP PIN	1	SUS304
22	STOP PIN NUT	1	SUS304



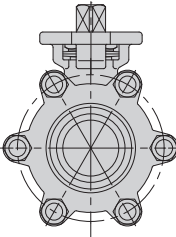
MODEL 907
Tube End



MODEL 906
Clamp End



1/2" - 2"



2 1/2" - 4"

DIMENSIONS (mm)

SIZE	B	B1	ØC	ØD	ØC1	ØD1	E	H	ØI	L	ISO 5211
1/2"	40.2	9	25	9.5	12.7	9.4	128	70.5	9	89.1	F03 F04
3/4"	43.4	9	25	15.9	19.05	15.75	128	73.8	9	101	F03 F04
1"	52	14	50.4	22.2	25.4	22.2	167	85.4	11	114	F04 F05
1 1/2"	65.7	15.5	50.4	35	38.1	34.8	215	99.6	14	140	F05 F07
2"	73.95	15.5	64	47.5	50.8	47.5	215	107.8	14	156	F05 F07
2 1/2"	94	16.5	77.5	60.3	63.5	60.2	322	145.7	17	197	F07 F10
3"	102	16.5	90.9	73	76.2	72.9	322	154.7	17	229	F07 F10
4"	132	21.5	118.9	97.4	101.6	97.4	320	188	22	241	F10

SERIES 90

MODEL
906 / 907

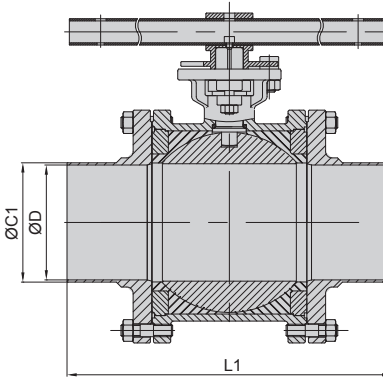
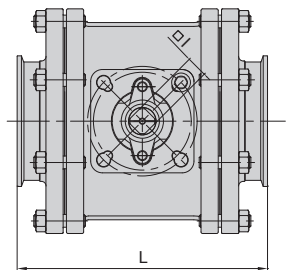
3-Piece Sanitary Ball Valve
T-Clamp / Tube
(6")



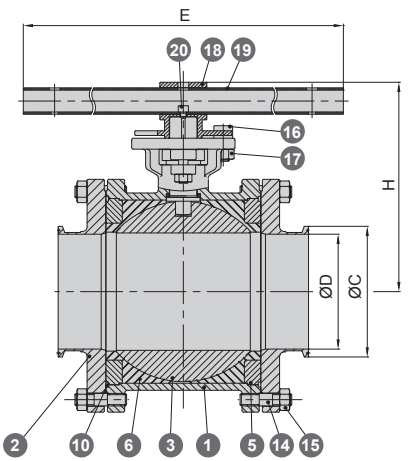
Pressure Rating	250WOG (6")
Material	ASTM A351-CF3M
Seat	Cavity filled PTFE, Non-cavity filled TFM1600
Bore Type	Standard bore
Additional Features	▪ Surface roughness: Ra≤0.4μm ▪ ISO 5211 direct mounting pad ▪ Able to add anti-static device (Ball-stem-body)

MATERIALS LIST

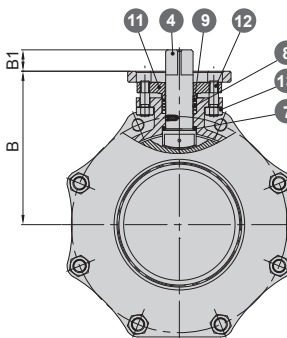
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF3M
2	END CAP	2	CF3M
3	BALL	1	SUS316L
4	STEM	1	630(H1150)
5	JOINT GASKET	2	SUS316
6	SEAT /CAVITY FILLER	2	PTFE
7	STEM SEAL	1	TFM1600
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	PACKING	2	PTFE
11	GLAND	1	CF8
12	GLAND BOLT	2	SUS304
13	GLAND NUT	2	SUS304
14	BOLT	16	SUS304
15	NUT	16	SUS304
16	STOP PIN	1	SUS304
17	STOP PIN NUT	1	SUS304
18	HANDLE ADAPTOR	1	CF8
19	PIPE HANDLE	1	SUS304
20	HANDLE BOLT	1	SUS304



MODEL 907
Tube End



MODEL 906
T-Clamp End



6"

DIMENSIONS (mm)

SIZE	B	B1	ØC	ØD	E	H	ØI	L	ISO 5211	ØC1	L1
6"	196	27	166.9	146.8	800	267.5	27	320	F12 F14	152.4	415

SERIES 90

MODEL
906J

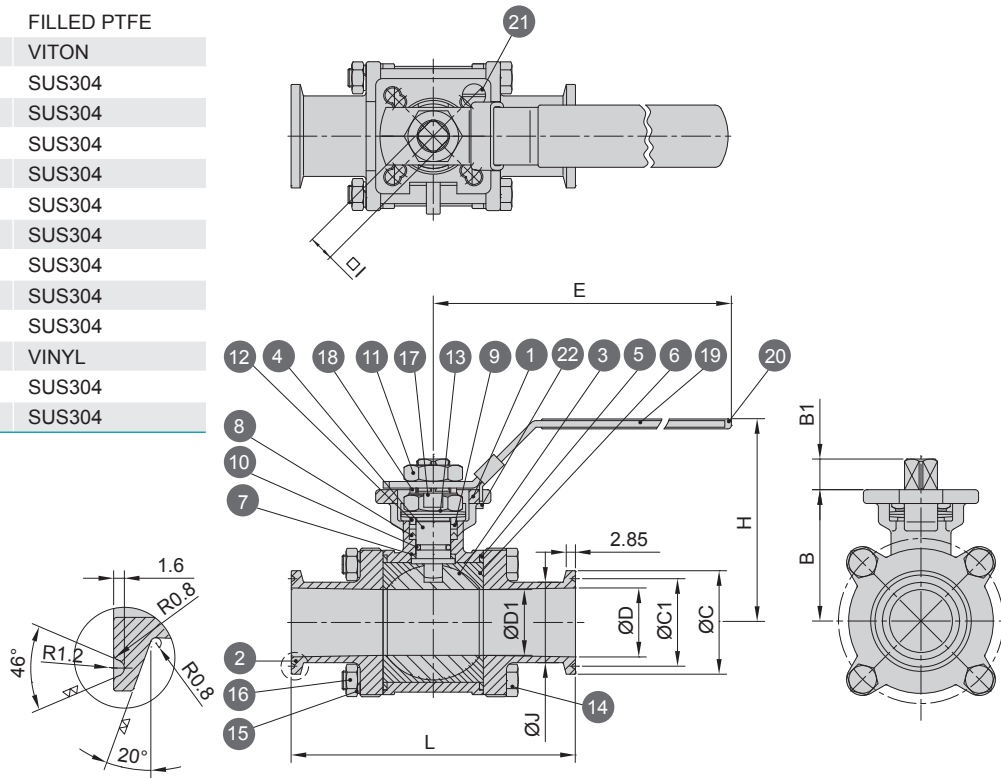
3-Piece Sanitary
Ball Valve



Pressure Rating	PN64
Material	EN10213-1.4408
Seat	Cavity filled PTFE
Additional Features	- Ball, Cap, Body: Electropolished - Surface roughness: $Ra \leq 0.4\mu m$ - ISO 5211 direct mounting pad - Able to add Anti-static device (Ball-stem-body)

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408
2	END CAP	2	SCS14A
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	2	PTFE
6	SEAT/CAVITY FILLER	2	PTFE
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	O-RING	1	VITON
11	STEM NUT	2	SUS304
12	GLAND	1	SUS304
13	BELLEVILLE WASHER	2	SUS304
14	BOLT	4	SUS304
15	WASHER	4	SUS304
16	BOLT NUT	4	SUS304
17	LOCK SADDLE	1	SUS304
18	WASHER	1	SUS304
19	HANDLE	1	SUS304
20	HANDLE SLEEVE	1	VINYL
21	STOP PIN	1	SUS304
22	STOP PIN NUT	1	SUS304



DIMENSIONS (mm)

SIZE	B	B1	ØC	ØC1	ØD	ØD1	E	H	□I	ØJ	L	ISO 5211
8A(1/4")	40.2	9	34	27.5	10.5	10.5	130	68	9	13.8	90	F03 F04
10A(3/8")	40.2	9	34	27.5	14	15	130	68	9	18.3	90	F03 F04
15A(1/2")	40.2	9	34	27.5	17.5	15	130	68	9	20.8	102	F03 F04
1.0S(1")	52	14	50.5	43.5	23	22.2	168	83	11	26.3	110	F04 F05
1.5S(1 1/2")	65.7	15.5	50.5	43.5	35.7	34.8	220	98	14	39	140	F05 F07
2.0S(2")	73.95	15.5	64	56.5	47.8	47.5	220	106	14	51.1	156	F05 F07

SERIES 90

MODEL
90KF-NW

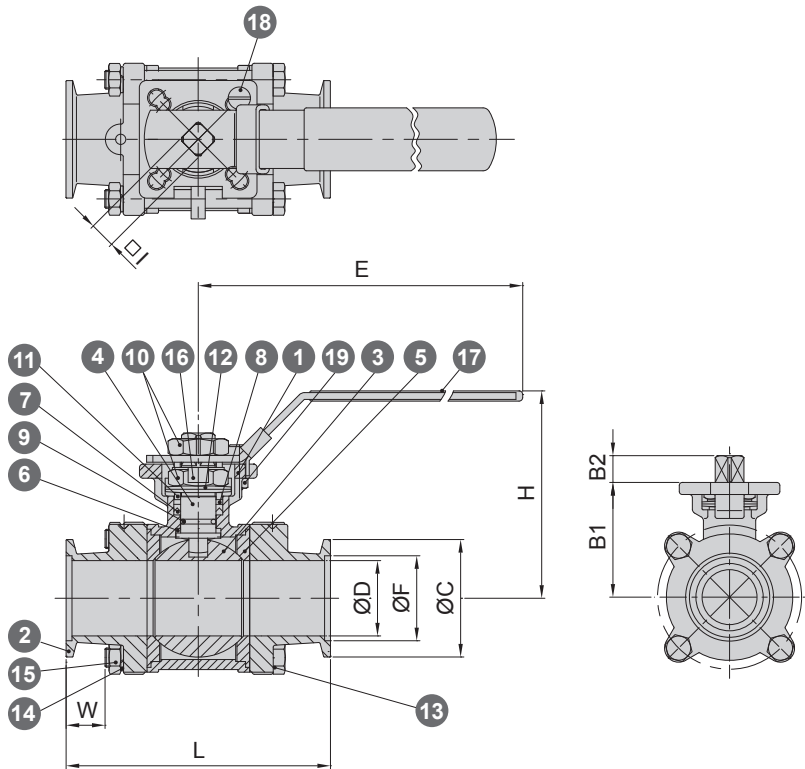
3-Piece Vacuum
Ball Valve



Pressure Rating	PN64
Material	EN10213-1.4408, ASTM A351-CF8M
Seat	TFM1600
Bore Type	Full bore
Additional Features	- ISO 5211 direct mounting pad - Vacuum rated to 1×10^{-4} Torr - Able to add anti-static device (Ball-stem-body)

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	1.4408(CF8M)
2	END CAP	2	1.4408(CF8M)
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	STEM SEAL	1	R.PTFE
7	V-RING PACKING	1SET	PTFE
8	BUSHING	1	50%S.S.POWDER FILLED PTFE
9	O-RING	1	VITON
10	STEM NUT	2	SUS304
11	GLAND	1	SUS304
12	BELLEVILLE WASHER	2	SUS304
13	BOLT	4	SUS304
14	WASHER	4	SUS304
15	BOLT NUT	4	SUS304
16	LOCK SADDLE	1	SUS304
17	HANDLE	1	SUS304
18	STOP PIN	1	SUS304
19	STOP PIN NUT	1	SUS304



DIMENSIONS (mm)

SIZE	B1	B2	ØC	ØF	ØD	E	H	□I	L	W	ISO 5211
NW10 3/8"	40.2	9	30	12.2	9.5	128	70.5	9	89	14.5	F03 F04
NW16 1/2"	40.2	9	30	17.2	15	128	70.5	9	89	14.5	F03 F04
NW25 1"	52	14	40	26.2	22.2	167	85.4	11	119	22.5	F04 F05
NW40 1 1/2"	65.7	15.5	55	41.2	38	215	99.6	14	147	23	F05 F07
NW50 2"	73.95	15.5	75	52.2	50	215	107.8	14	181	23	F05 F07

SERIES 95

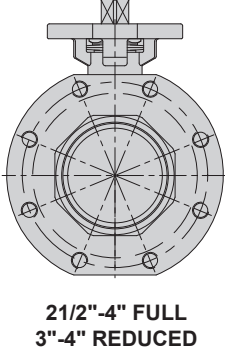
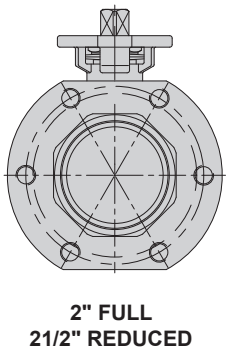
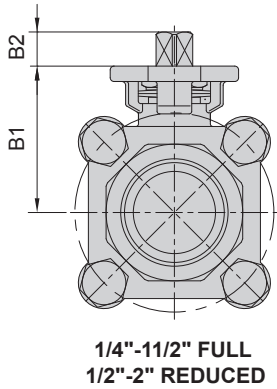
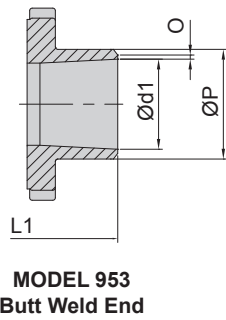
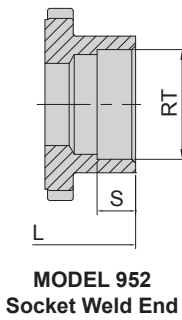
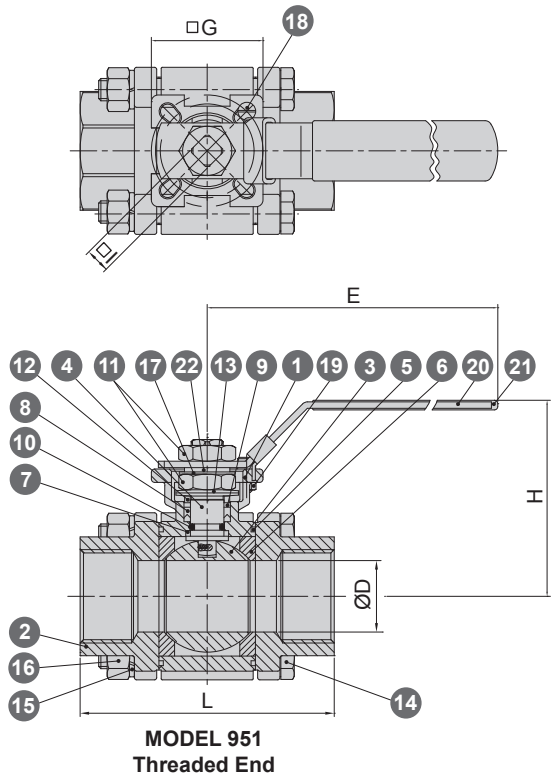
MODEL
951 / 952 / 953
3-Piece High Pressure
Ball Valve



Pressure Rating	95F 2000WOG (1/4"-1")
	1500WOG (11/4"-2")
	1000WOG (21/2"-4")
	95R 2000WOG (1/2"-11/4")
	1500WOG (11/2"-21/2")
Material	1000WOG (3"-4")
	ASTM A351-CF8M, ASTM A890-CE3MN (1.4410)
Seat	TFM1600
Bore Type	Full bore, Reduced bore
Additional Features	• Available connections: Threaded, Socket weld, Butt weld
	• ISO 5211 direct mounting pad

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	2	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	2	PTFE
6	SEAT	2	TFM1600
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	O-RING	1	VITON
11	STEM NUT	2	SUS304
12	GLAND	1	SUS304
13	BELLEVILLE WASHER	2	SUS304
14	BOLT	4~16	SUS304
15	WASHER (1/4"-11/2")	4	SUS304
16	BOLT NUT (1/4"-11/2")	4	SUS304
17	LOCK SADDLE	1	SUS304
18	STOP PIN	1	SUS304
19	STOP PIN NUT	1	SUS304
20	HANDLE	1	SUS304
21	HANDLE SLEEVE	1	VINYL
22	HANDLE WASHER	1	SUS304



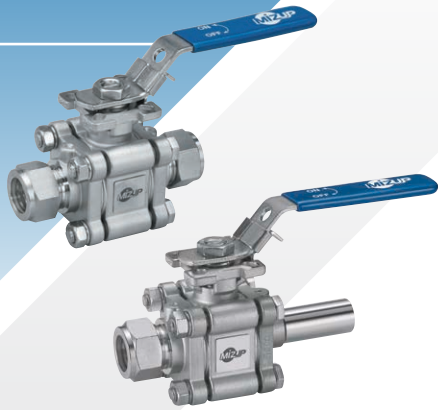
DIMENSIONS (mm)

SIZE	B1		B2		ØD		Ød1		E	□G		H		□I		L		L1		O		ØP		RT		S		ISO 5211	
	F	R	F	R	F	R	F	R		F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R
DN8 1/4"	40.5	-	9	-	11.6	-	-	-	128	42	-	70.8	-	9	-	64.8	-	75	-	-	-	-	-	14.2	-	11	-	F03 F04	-
DN10 3/8"	40.5	-	9	-	12.5	-	-	-	128	42	-	70.8	-	9	-	64.8	-	75	-	-	-	-	-	17.7	-	11	-	F03 F04	-
DN15 1/2"	40.5	40.5	9	9	15	12.5	16	16	128	42	42	70.8	70.8	9	9	72.5	72.5	75	75	1	1	21.7	21.7	21.9	21.9	12	12	F03 F04	F03 F04
DN20 3/4"	43.7	40.5	9	9	20	15	21.4	21.4	128	42	42	74.1	70.8	9	9	85.4	72.5	85.4	75	1	1	27.2	27.2	27.2	27.2	14	14	F03 F04	F03 F04
DN25 1"	52	43.7	14	9	25	20	27.2	27.2	167	50	42	85.4	74.1	11	9	105.3	85.4	105.3	85.4	1	1	34	34	33.9	33.9	14	14	F04 F05	F03 F04
DN32 1 1/4"	57	52	14	14	32	25	35.5	35.5	167	50	50	90.5	85.4	11	11	111	105.3	111	105.3	1	1	42.7	42.7	42.7	42.7	15	15	F04 F05	F04 F05
DN40 1 1/2"	77	57	15.5	14	38	32	41.2	41.2	215	70	50	110.9	90.5	14	11	127.3	111	127.3	111	1	1	48.6	48.6	48.8	48.8	17	17	F05 F07	F04 F05
DN50 2"	85.2	77	15.5	15.5	50	38	52.5	52.5	215	70	70	119	110.9	14	14	142.8	127.3	142.8	127.3	1.6	1.6	60.5	60.5	61.3	61.3	19	19	F05 F07	F05 F07
DN65 2 1/2"	111.5	85.2	16.5	15.5	65	50	65.9	65.9	322	100	70	163.2	119	17	14	185	142.8	185	142.8	2	2	76.3	76.3	74	74	21	21	F07 F10	F05 F07
DN80 3"	120.5	111.5	16.5	16.5	80	65	80	80	322	100	100	173.2	163.2	17	17	205	185	205	185	2	2	90	90	90	90	25	25	F07 F10	F07 F10
DN100 4"	131.5	120.5	21.5	16.5	100	80	102.5	102.5	320	100	100	187.5	173.2	22	17	240	205	240	205	2	2	115	115	115.6	115.6	30	30	F10	F07 F10

SERIES 95

MODEL 95K

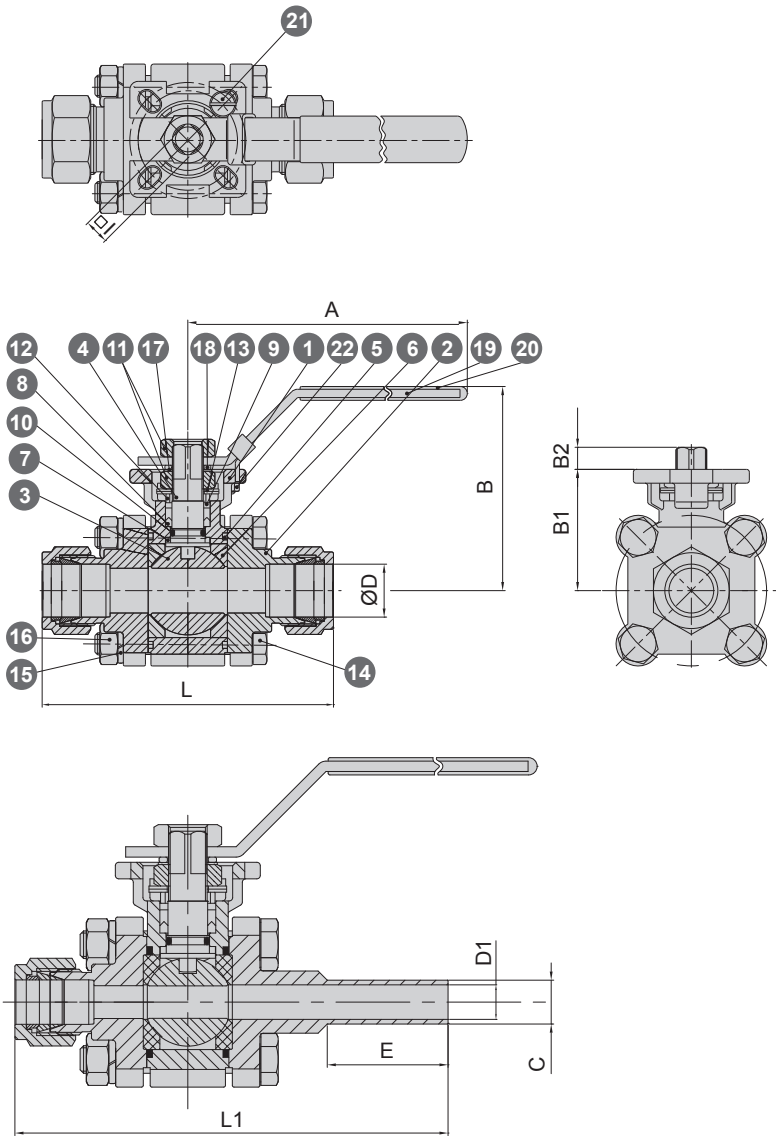
3-Piece High Pressure
Ball Valve
Compression Fitting / Tube



Pressure Rating	2000WOG
Material	ASTM A351-CF8M
Seat	TFM1600
Bore Type	Reduced bore
Additional Features	• ISO 5211 direct mounting pad • Silver plated nut • Heat treated ferrule

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	CF8M
2	END CAP	2	CF8M
3	BALL	1	SUS316
4	STEM	1	SUS316
5	PACKING	2	PTFE
6	SEAT	2	TFM1600
7	STEM SEAL	1	R.PTFE
8	V-RING PACKING	1SET	PTFE
9	BUSHING	1	50%S.S.POWDER FILLED PTFE
10	O-RING	1	VITON
11	STEM NUT	2	SUS304
12	GLAND	1	SUS304
13	BELLEVILLE WASHER	2	SUS304
14	BOLT	4	SUS304
15	WASHER	4	SUS304
16	BOLT NUT	4	SUS304
17	LOCK SADDLE	1	SUS304
18	WASHER	1	SUS304
19	HANDLE	1	SUS304
20	HANDLE SLEEVE	1	VINYL
21	STOP PIN	1	SUS304
22	STOP PIN NUT	1	SUS304



DIMENSIONS (mm)

SIZE	A	B	B1	B2	ØD	□	L	ISO 5211	L1	E	C	D1
1/4"	128	70.8	40.5	9	6.49	9	95.1	F03 F04	-	-	-	-
3/8"	128	70.8	40.5	9	9.7	9	96.2	F03 F04	-	-	-	-
1/2"	128	70.8	40.5	9	12.9	9	102.2	F03 F04	125.5	35	12.7	10
3/4"	128	74.1	43.7	9	19.2	9	102.2	F03 F04	130.6	41.3	19.05	15.75

SERIES 95

ACTUATED
VALVES
LINE-UP



MODEL 206
Accessory:
Pneumatic Actuator



MODEL 90KF-NW
Accessory:
Pneumatic Actuator with
Solenoid Valve and Filter Regulator



MODEL MPY1
Accessory:
Pneumatic Actuator with Smart
Electropneumatic Valve Positioner



MODEL 203AJ1-10K
Accessory:
Pneumatic Actuator



Butterfly Valve
Accessory:
Pneumatic Actuator



MODEL MPY1
Accessory:
Solenoid Valve



MODEL 901
Accessory:
Pneumatic Actuator with Smart
Electropneumatic Valve Positioner



Pneumatic Actuator with
Reed Sensor



MODEL 203AJI-10K
Accessory:
Electric Actuator

SERIES MP

MODEL
MPY1 / MPY2
MPY3

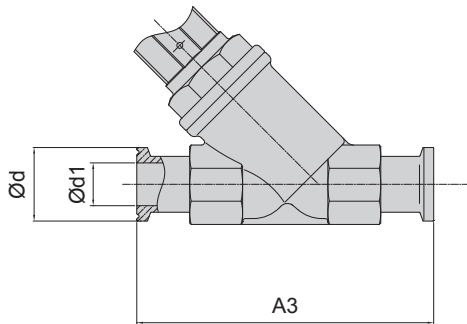
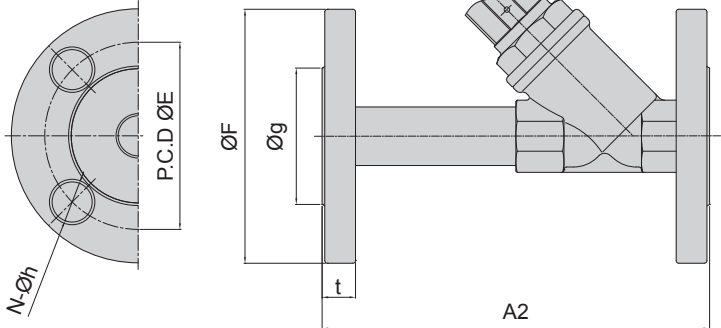
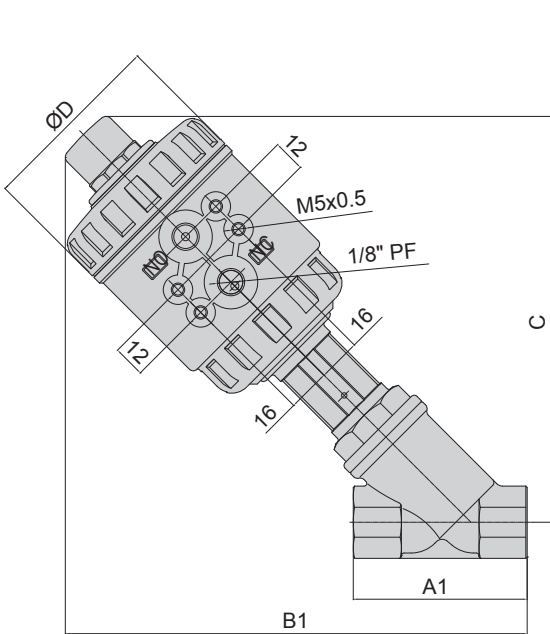
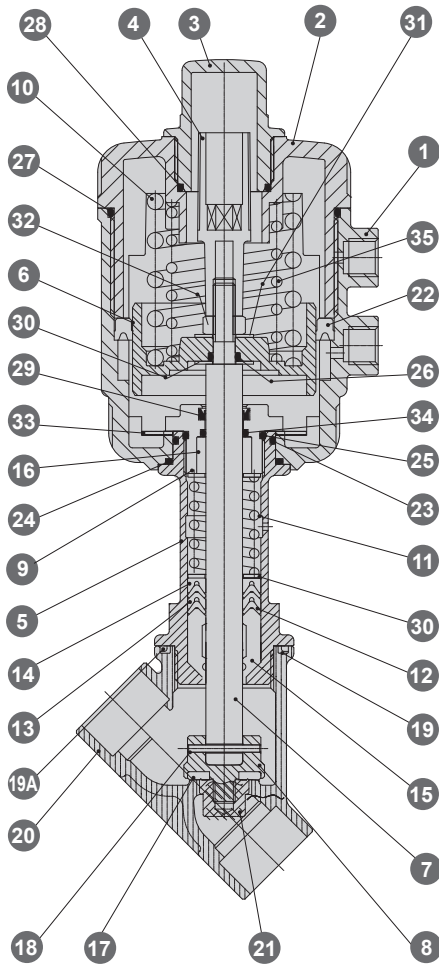
Angle Seat Globe Valve



Valve Pressure Rating	PN40 (1/2"-1") PN25 (1 1/4"-2")
Valve Piloting Type	Pneumatics (Spring return)
Control Function	Normally closed
Material	ASTM A351-CF8M
Temperature Range	-10°C ~ +180°C
Control Pressure	4 ~ 10 Bar
Seat	PTFE
Additional Features	▪ Available connections: Threaded, Flanged, T-Clamp ▪ NAMUR solenoid mounting pad

MATERIALS LIST

NO.	PART NAME	Q'TY	MATERIAL
1	ACTUATOR BODY	1	PA66-GF30%
2	ACTUATOR COVER	1	PA66-GF30%
3	TRANSPARENT CUP	1	PC
4	MOVABLE DISPLAYER	1	PA66-GF30%
5	TUBE	1	SUS316
6	PISTON	1	BRASS
7	STEM	1	SUS316
8	PLOG	1	SUS316
9	GLAND NUT	1	BRASS
10	SPRING	1	SWC
11	SPRING	1	SUS304
12	V-RING PACKING	2	VITON
13	V-RING PACKING	1	PTFE
14	V-RING PACKING	1	PTFE
15	BEARING	1	PTFE
16	BEARING	1	PTFE
17	SEAT	1	PTFE
18	DOWEL PIN	1	SUS316
19	END SEAL	1	TFM4215
19A	END O-RING	1	EPDM
20	VALVE BODY	1	SUS316
21	SEAT NUT	1	SUS316
22	PISTON SEAL	1	NBR
23	TUBE O-RING	1	VITON
24	TUBE O-RING	1	VITON
25	TUBE O-RING	1	VITON
26	STEM O-RING	1	VITON
27	BODY O-RING	1	NBR
28	COVER O-RING	1	NBR
29	STEM SEAL	1	VITON
30	WASHER	2	BRASS
31	STEM WASHER	2	SUS304
32	STEM NUT	1	SUS304
33	BELLEVILLE WASHER 11/2"-2"	1	SUS304
34	TUBE O-RING	1	VITON
35	SPRING(11/2"-2")	1	SWC



DIMENSIONS (mm)

SIZE		A1	A2	A3	B1	C	ØD	Ød	Ød1	ØE	ØF	Øg	N-Øh	t	Ø Control head	P control bar		P operating bar	
																Min	Max	Max	
1/2"	10K	65	145	113	173	152	70	25	9.5	70	95	51	4-15	12.5	50	4	10	11	
	PN16									65	95	45	4-14	14					
	150LB									60.3	89	35	4-16	11.2					
3/4"	10K	75	150	130	179	157	70	25	15.9	75	100	56	4-15	14.5	50	4	10	11	
	PN16									75	105	58	4-14	16					
	150LB									69.9	98.4	43	4-16	12.7					
1"	10K	90	180	140	209	182	84	50.4	22.2	90	125	67	4-19	14.3	63	4	10	11	
	PN16									85	115	68	4-14	16					
	150LB									79.4	108	50.8	4-16	14.3					
1 1/4"	10K	110	190	-	214	192	84	-	-	100	135	76	4-19	16.3	63	4	10	11	
	PN16									100	140	78	4-18	16					
	150LB									88.9	117.5	63.5	4-16	15.8					
1 1/2"	10K	120	220	170	250	219	115	50.4	35	105	140	81	4-19	16.5	90	4	8	11	
	PN16									110	150	88	4-18	16					
	150LB									98.4	127	73	4-16	17.4					
2"	10K	150	235	212	267	226	115	64	47.5	120	155	96	4-19	16.5	90	4	8	11	
	PN16									125	165	102	4-18	18					
	150LB									120.7	152.4	92	4-19	19					

SERIES MP

MODEL
MP271 / MP2714

2-Piece Instrumentation
Ball Valve



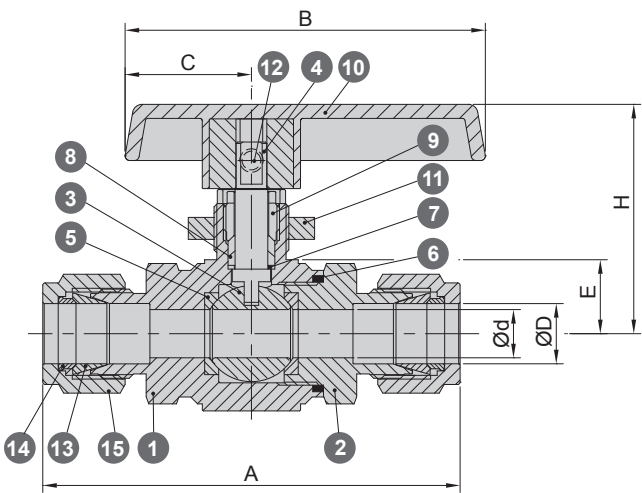
Maximum Pressure	1000PSI (69bar)
Temperature Rating	-20°C ~ +180°C
Material	ASTM A351-CF8M
Seat	TFM1600
Additional Features	• Oil-free product • Available connections: Compression fitting end, Tube end • Silver plated nut • Heat treated ferrule

MATERIALS LIST

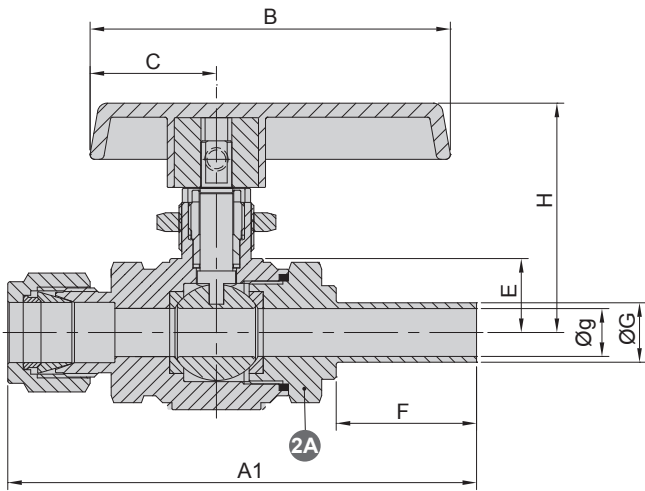
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	ASTM A351-CF8M
2	END CONNECTOR	1	ASTM A351-CF8M
2A	END CAP	1	SUS316L
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	PACKING	1	PTFE
7	STEM WASHER	1	SUS304
8	STEM PACKING	1SET	PTFE
9	PACKING NUT	1	SUS316
10	HANDLE	1	PA66-GF30%
11	PANEL NUT	1	SUS304
12	HANDLE SET SCREW	1	SUS304
13	FRONT FERRULE	1~2	SUS316
14	BACK FERRULE	1~2	SUS316
15	NUT	1~2	SUS316

DIMENSIONS (mm)

SIZE	A	A1	B	C	Ød	ØD	E	F	Øg	ØG	H
1/4"	67	82	63	25	4.6	6.49	11.2	30	4.57	6.35	42.6
3/8"	70	83.5	63	25	6.4	9.7	11.2	30	7.53	9.53	42.6
1/2"	89.2	100.2	77	27	10.3	12.9	15.8	30	10.22	12.7	49.15
3/4"	89.4	106.2	77	27	10.3	19.2	15.8	36	16.57	19.05	49.15



MODEL MP271
Compression Fitting End

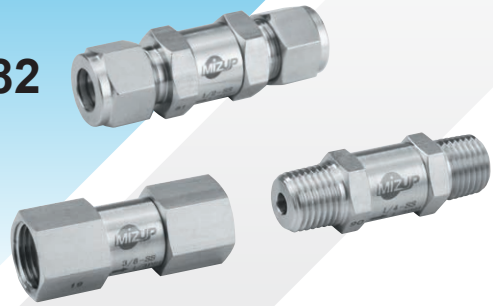


MODEL MP2714
Compression Fitting End x Tube End

SERIES MP

MODEL
MP281 / MP282
MP283

Mini Check Valve



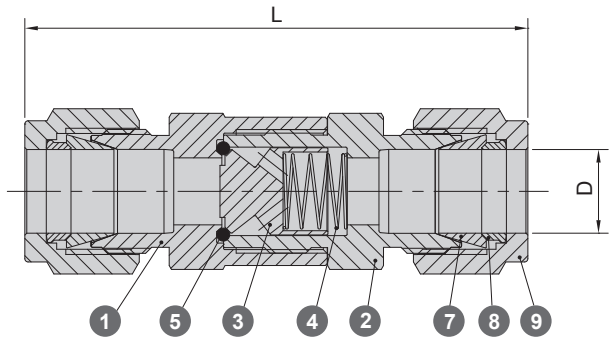
Maximum Pressure	2000PSI (138bar)
Temperature Rating	-20°C ~ +180°C
Cracking Pressure	1/3 PSI
Material	SS316 BAR
Seat	VITON
Additional Features	• Oil-free product • Available connections: Compression fitting end, Female/Male threaded • Silver plated nut • Heat treated ferrule

MATERIALS LIST

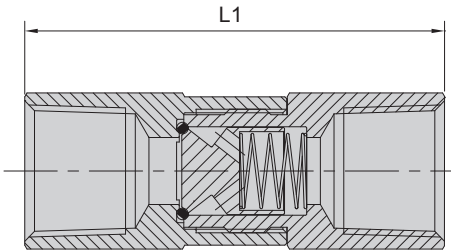
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	SUS316
2	END CONNECTOR	1	SUS316
3	POPPET	1	SUS316
4	SPRING	1	SUS304
5	O-RING	1	VITON
6	O-RING	1	VITON
7	BV FF	2	SUS316
8	BV BF	2	SUS316
9	LOCKER	2	SUS316

DIMENSIONS (mm)

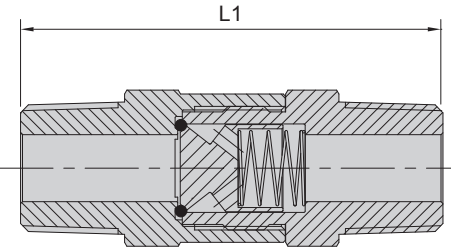
SIZE	D	L	L1
1/4"	6.49	60.7	49
3/8"	9.7	63.7	49
1/2"	12.9	77.1	65
3/4"	19.2	89.6	77.2
1"	25.5	120	105



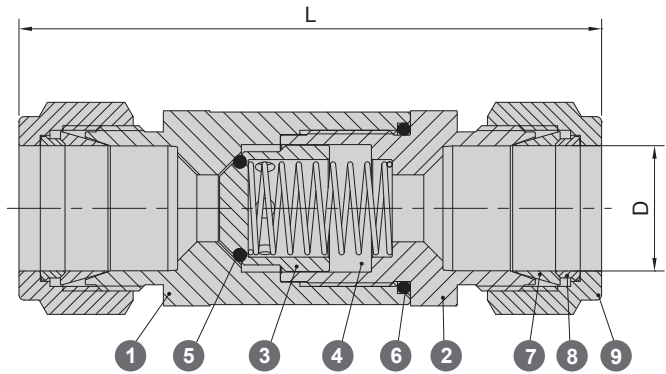
1/4"-1/2"
MODEL MP281
Compression Fitting End



MODEL MP282
Female



MODEL MP283
Male



3/4"-1"
MODEL MP281
Compression Fitting End

SERIES MP

MODEL
MP371 / MP372
MP373

3-Piece Instrumentation
Ball Valve



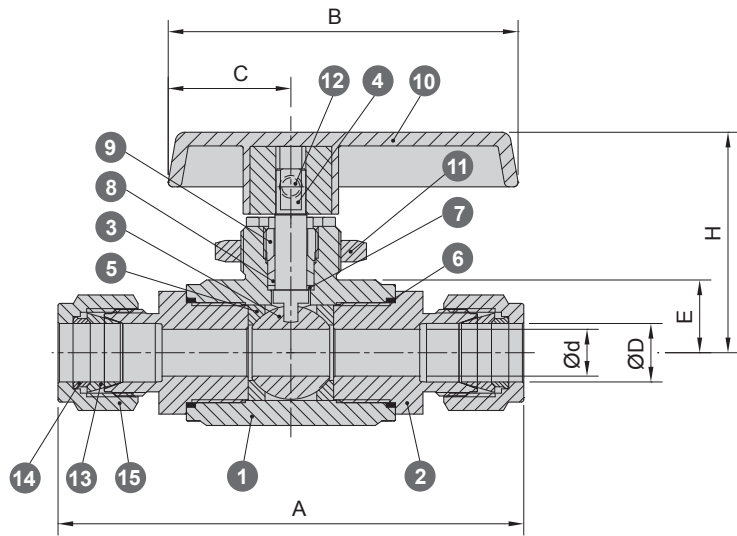
Maximum Pressure	3000PSI (207bar)
Temperature Rating	-20°C ~ +180°C
Material	ASTM A351-CF8M
Seat	TFM1600
Additional Features	• Oil-free product • Available connections: Compression fitting end, Female/Male threaded • Silver plated nut • Heat treated ferrule

MATERIALS LIST

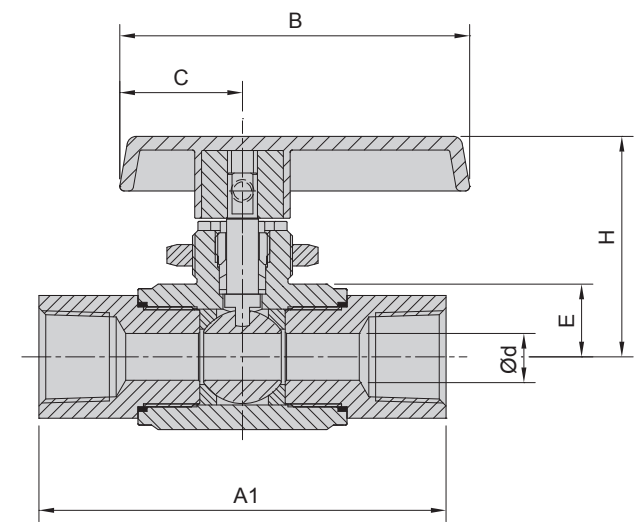
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	ASTM A351-CF8M
2	END CONNECTOR	2	SUS316
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	PACKING	2	PTFE
7	STEM WASHER	1	SUS304
8	STEM PACKING	1SET	PTFE
9	PACKING NUT	1	SUS316
10	HANDLE	1	PA66-GF30%
11	PANEL NUT	1	SUS304
12	HANDLE SET SCREW	1	SUS304
13	FRONT FERRULE	2	SUS316
14	BACK FERRULE	2	SUS316
15	NUT	2	SUS316

DIMENSIONS (mm)

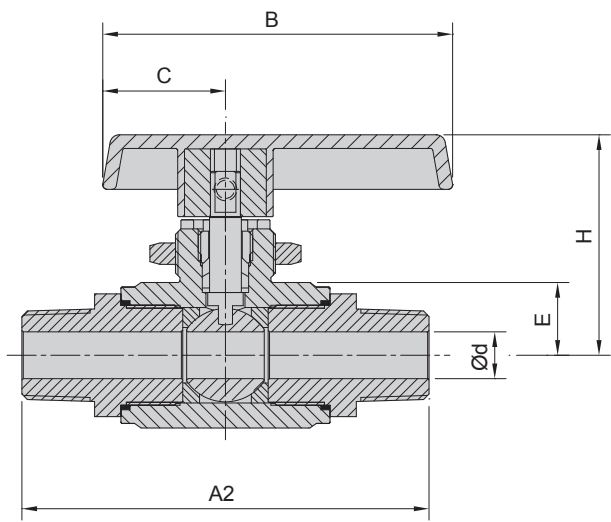
SIZE	A	A1	A2	B	C	Ød	ØD	E	H
1/4"	83.6	65.6	70.2	63	25	5	6.49	11.5	42.2
3/8"	86.6	67.6	71.6	63	25	6.3	9.7	11.5	42.2
1/2"	102.5	89.6	89.6	77	27	10.3	12.9	16	47.9
3/4"	102.7	89.6	89.6	77	27	10.3	19.2	16	47.9



MODEL MP371
Compression Fitting End



MODEL MP372
Female



MODEL MP373
Male

SERIES MP

MODEL
MP381 / MP382
MP383

3-Piece 3-Way
Instrumentation Ball Valve



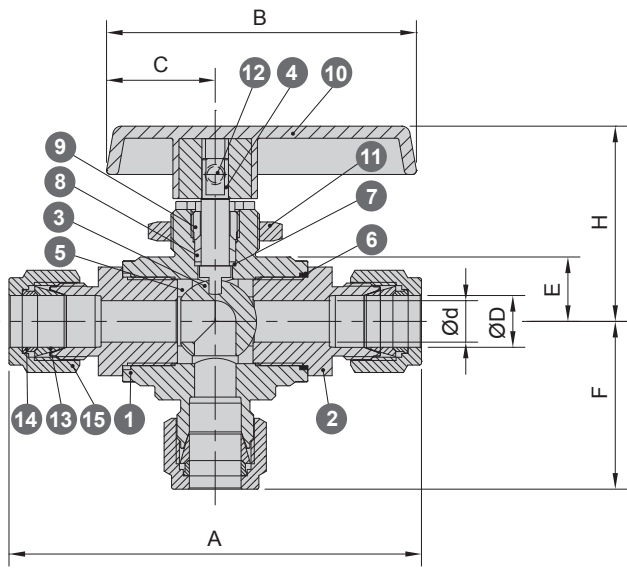
Maximum Pressure	3000PSI (207bar)
Temperature Rating	-20°C ~ +180°C
Material	ASTM A351-CF8M
Seat	TFM1600
Additional Features	• Oil-free product • L-port, available • Available connections: Compression fitting end, Female/Male threaded • Silver plated nut • Heat treated ferrule

MATERIALS LIST

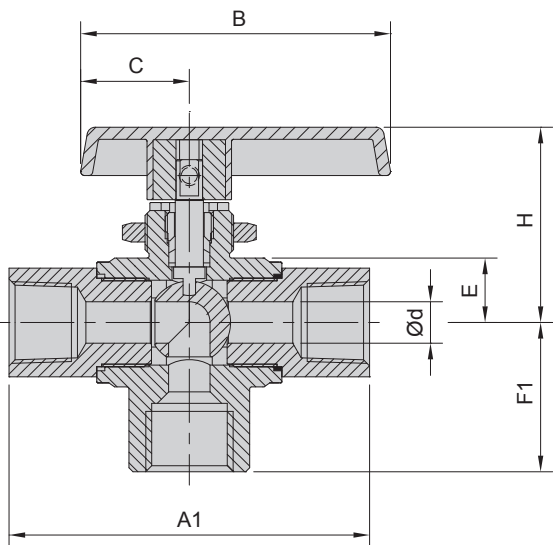
NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	ASTM A351-CF8M
2	END CONNECTOR	2	SUS316
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	TFM1600
6	PACKING	2	PTFE
7	STEM WASHER	1	SUS304
8	STEM PACKING	1SET	PTFE
9	PACKING NUT	1	SUS316
10	HANDLE	1	PA66-GF30%
11	PANEL NUT	1	SUS304
12	HANDLE SET SCREW	1	SUS304
13	FRONT FERRULE	3	SUS316
14	BACK FERRULE	3	SUS316
15	NUT	3	SUS316

DIMENSIONS (mm)

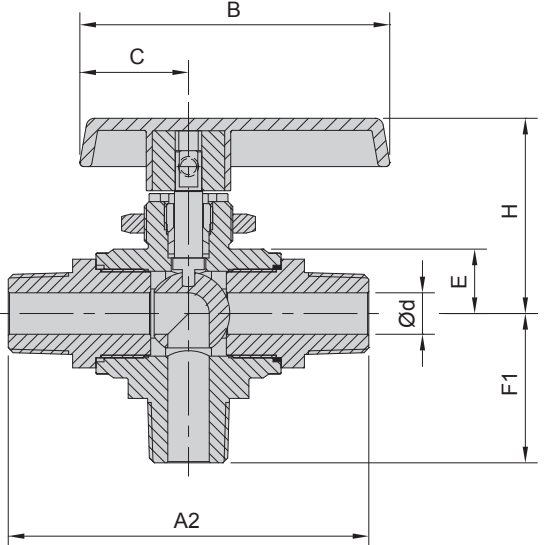
SIZE	A	A1	A2	B	C	Ød	ØD	E	F	F1	H
1/4"	83.6	65.6	70.2	63	25	5	6.49	11.5	32.3	26.7	42.2
3/8"	86.6	67.6	71.6	63	25	6.3	9.7	11.5	33.8	26.7	42.2
1/2"	105.5	89.6	89.6	77	27	10.3	12.9	16	41.6	37	47.9
3/4"	105.7	89.6	89.6	77	27	10.3	19.2	16	41.7	37	47.9



MODEL MP381
Compression Fitting End



MODEL MP382
Female

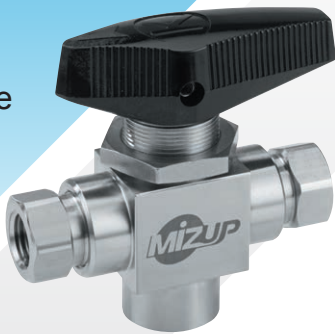


MODEL MP383
Male

SERIES MP

MODEL MP392

3-Piece 2/3-Way High Pressure
Instrumentation Ball Valve



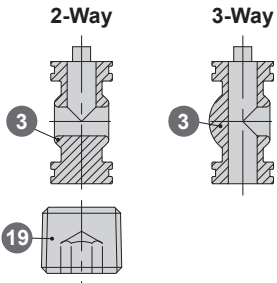
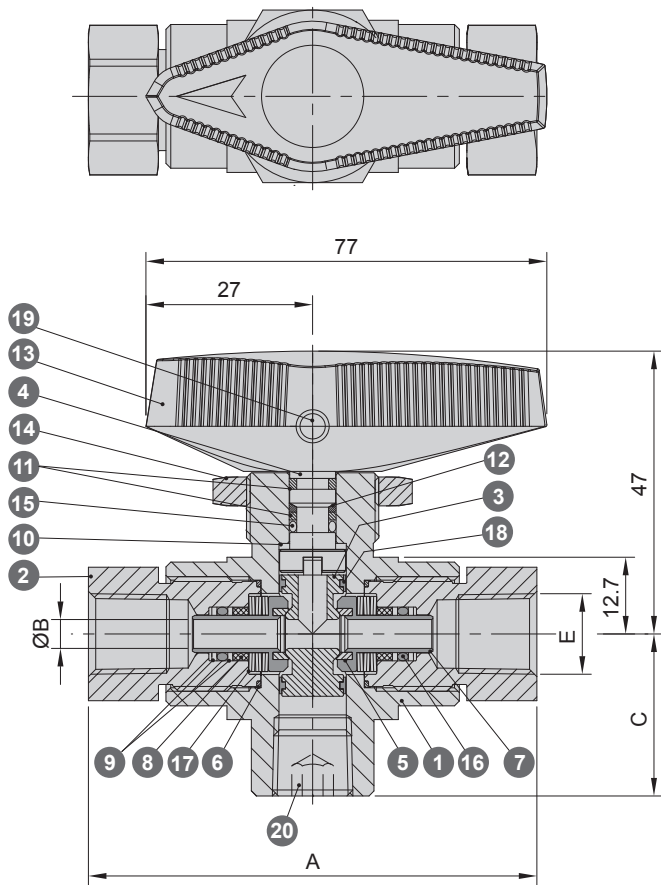
Maximum Pressure	6000PSI (414bar), 10000PSI (689bar)
Temperature Rating	6000PSI: -20°C ~ +120°C, 10000PSI: -10°C ~ +200°C
Material	SS316 BAR
Seat	PCTFE (6000PSI), PEEK (10000PSI)
Additional Features	• L-port available • Available connection: Female threaded

MATERIALS OF CONSTRUCTION

NO.	PART NAME	Q'TY	MATERIAL
1	BODY	1	SUS316
2	END CONNECTOR	2	SUS316
3	BALL	1	SUS316
4	STEM	1	SUS316
5	SEAT	2	6000PSI:PCTFE 10000PSI:PEEK
6	PACKING	2	TFM1600
7	SEAT RETAINER	2	SUS316
8	SPRING WASHER	2	SUS316
9	SEAT RETAINER O-RING BACK-UP	4	TFM1600
10	STEM WASHER	1	PEEK
11	STEM O-RING BACK-UP	2	TFM1600
12	PRIMARY STEM BACKUP RING	1	PEEK
13	HANDLE / INSERT	1	PA66-GF30%
14	PANEL NUT	1	SUS304
15	STEM O-RING	1	VITON
16	SEAT RETAINER O-RING	2	VITON
17	BELLEVILLE WASHER	12	SUS304
18	TRUNNION BEARINGS	2	PEEK
19	HANDLE SCREW	1	SUS304
20	PLUG(2-WAY ONLY)	1	SUS304

DIMENSIONS (mm)

SIZE	A	ØB	C	E (Thread)
1/8"	74.6	4.8	26.9	NPT.PT.PF
1/4"	74.6	4.8	26.9	NPT.PT.PF
3/8"	93.8	4.8	26.9	NPT.PT.PF
1/2"	100.2	4.8	28.9	NPT.PT.PF



OTHER VALVES AND VALVES PARTS

MODEL
CGL02 / CGL03

Cryogenic Globe Valve
Socket Weld
Butt Weld



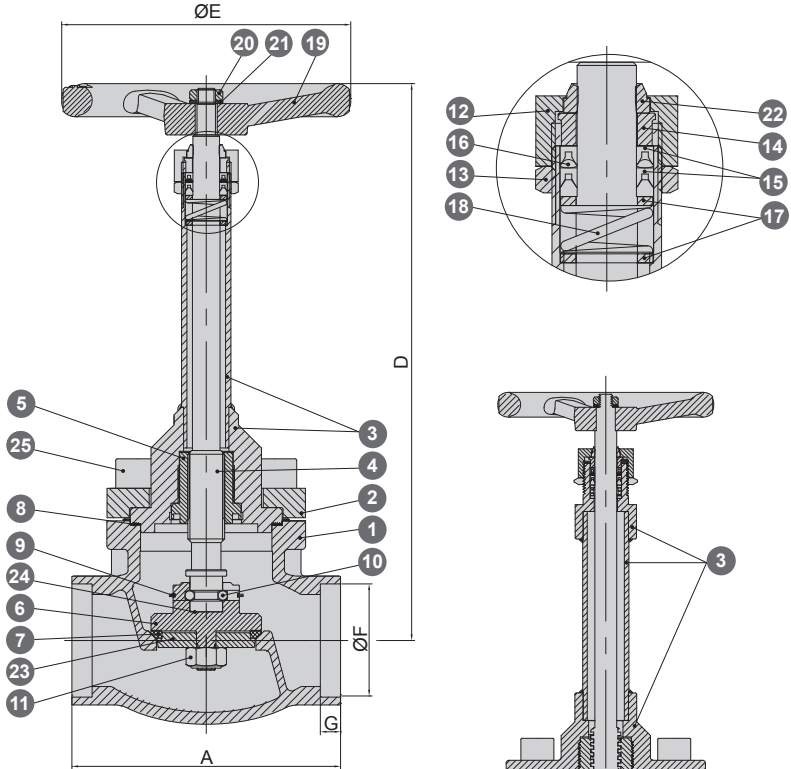
Maximum Pressure	PN50
Temperature Rating	-196°C ~ +65°C
Material	CF8M
Seat	PCTFE
Additional Features	BS 6364: 1984 Cryogenic Test Approval

MATERIALS LIST

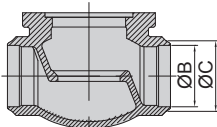
NO.	PART NAME	QTY	MATERIAL
1	BODY	1	CF8M
2	CAP	1	CF8M
3	PIPE LINER	1	SUS316
4	PLUG STEM	1	SUS316
5	BRASS BUSHING	1	BRASS
6	PLUG	1	BRASS
7	SEAT	1	PCTFE
8	SEAT RING	1	SIGMA511
9	SNALINK	1	SUS420
10	BALL	10	SUS304
11	SEAT NUT	1	SUS304
12	BONNET NUT	1	SUS304
13	NUT	1	SUS304
14	GLAND	1	BRASS
15	V-RING PACKING	3	TFM1600
16	O-RING	1	NBR
17	WASHER	2"	BRASS
18	SPRING	1	SUS304
19	HANDLE WHEEL	1	DUCTILE IREN
20	NUT	1	SUS304
21	WASHER	1	SUS304
22	BOOT	1	SI
23	WASHER	1	BRASS
24	BUNG GASKET	1	PTFE
25	BOLT	4~6	SUS304

DIMENSIONS (mm)

SIZE	A	ØB	ØC	D	ØE	ØF	G
1/2"	68	16	24	285	80	21	9.5
1"	92	27	35	287.5	100	34	12
1 1/2"	121	41.5	50.5	297	125	49	12.5
2"	146	53	62	298	125	61.5	11
2 1/2"	178	67	77	364.6	160	74	15



(1/2"-2")
MODEL CGL02
Socket Weld



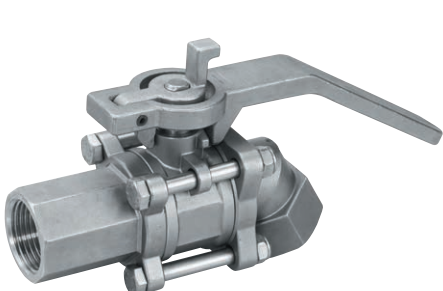
MODEL CGL03
Butt Weld

OTHER VALVES AND VALVES PARTS

SPECIALIZED
PRODUCTS



Sampling Valve



Angle Cock



Tank Bottom Ball Valve



Y-Strainer



Butterfly Valve



Needle Valve



Gate Valve



High Pressure High Temperature Ball Valve

SERIES 10

SERIES 20

SERIES 30

SERIES 70

SERIES 85

SERIES 90

SERIES 95

SERIES
MPY / MP

OTHER VALVES
AND
VALVES PARTS

PRESSURE-
TEMPERATURE
RATINGS

SERIES 10

SERIES 20

SERIES 30

SERIES 70

SERIES 85

SERIES 90

SERIES 95

SERIES
MPY / MP

OTHER VALVES
AND
VALVES PARTS

PRESSURE-
TEMPERATURE
RATINGS

OTHER VALVES AND VALVES PARTS

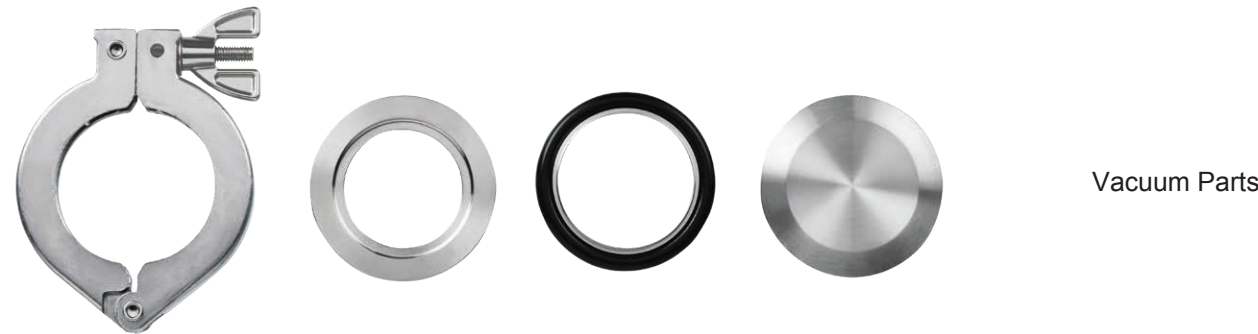
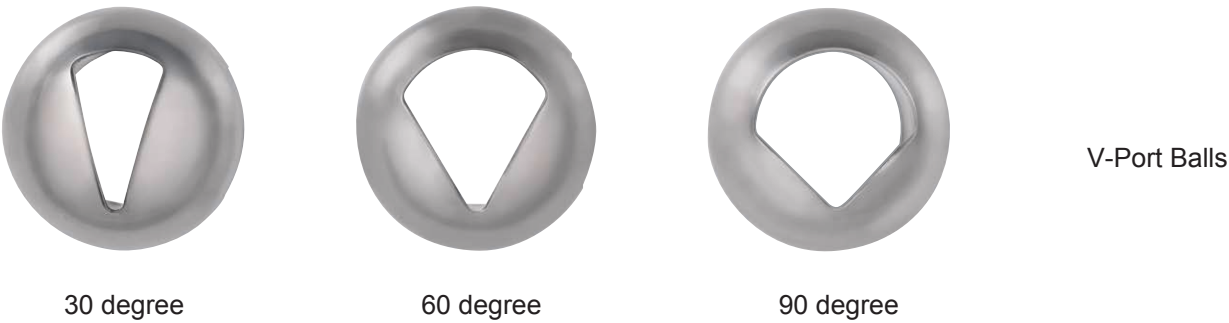
BALL SEATS

	Name	Material	Temperature Rating
	PTFE	Virgin PTFE	-10°C~+120°C
	TFM1600	Chemically Modified PTFE	-29°C~+230°C
	25%	25% Carbon Filled PTFE	-10°C~+250°C
	50/50	50% Stainless Steel Powder Filled PTFE	-10°C~+280°C
	PEEK	Virgin PEEK	RT~+300°C
	Cavity Filled Seat	Virgin PTFE	-10°C~+120°C
	PCTFE	Fluorocarbon Based Polymer	-196°C~+65°C

Note: The above data is given for reference only.
Please refer to our Pressure-Temperature Ratings fo check the actual working conditions. (See page 55 to 60).

OTHER VALVES AND VALVES PARTS

VALVES PARTS



SERIES 10

SERIES 20

SERIES 30

SERIES 70

SERIES 85

SERIES 90

SERIES 95

SERIES MPY / MP

OTHER VALVES AND VALVES PARTS

PRESSURE-TEMPERATURE RATINGS

SERIES 10

SERIES 20

SERIES 30

SERIES 70

SERIES 85

SERIES 90

SERIES 95

SERIES MPY / MP

OTHER VALVES AND VALVES PARTS

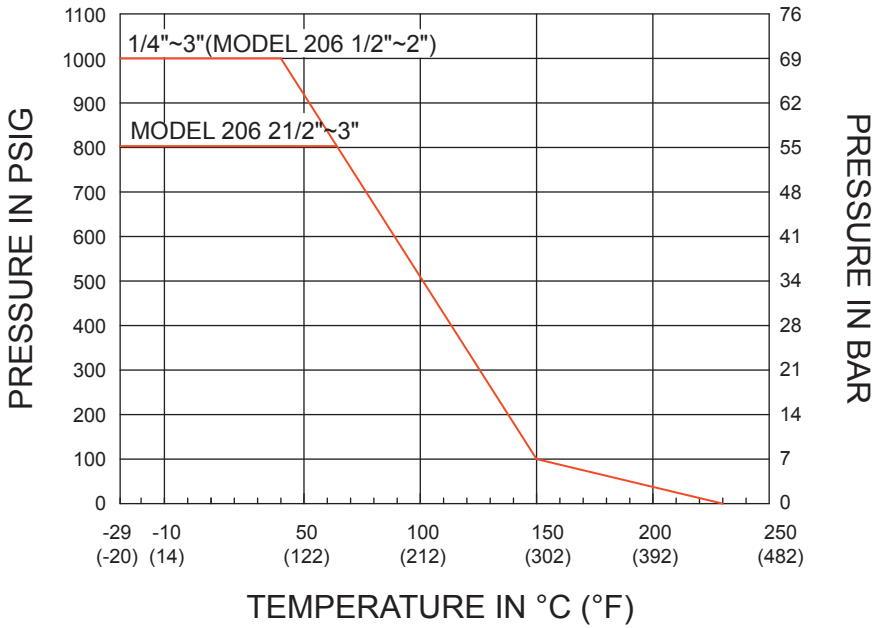
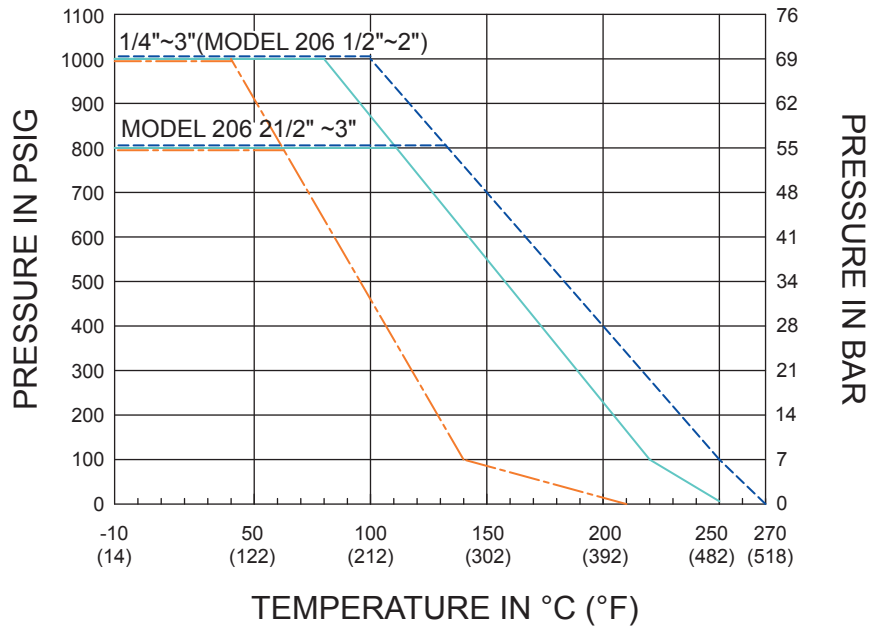
PRESSURE-TEMPERATURE RATINGS

PRESSURE - TEMPERATURE RATINGS

PRESSURE-
TEMPERATURE RATINGS

MODEL 201, 206

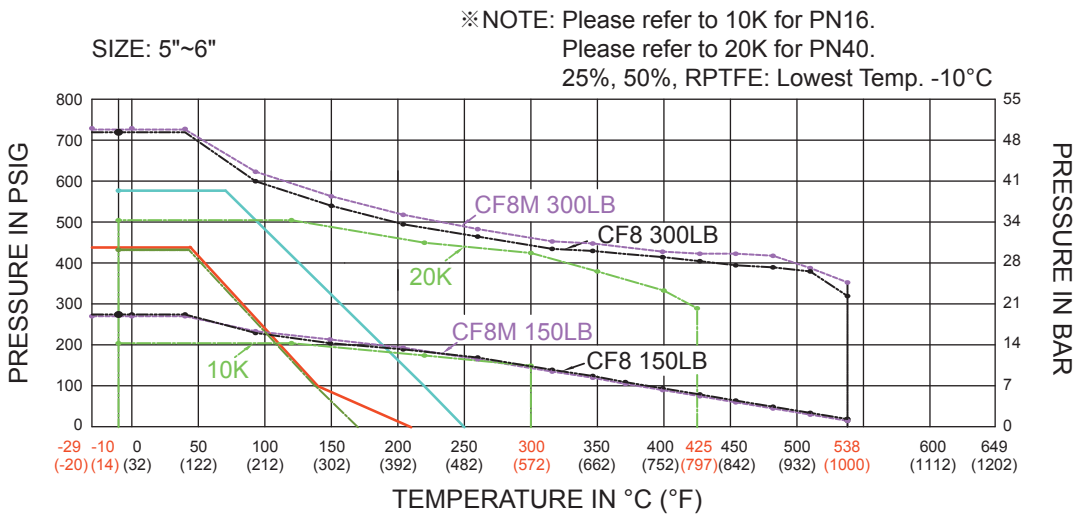
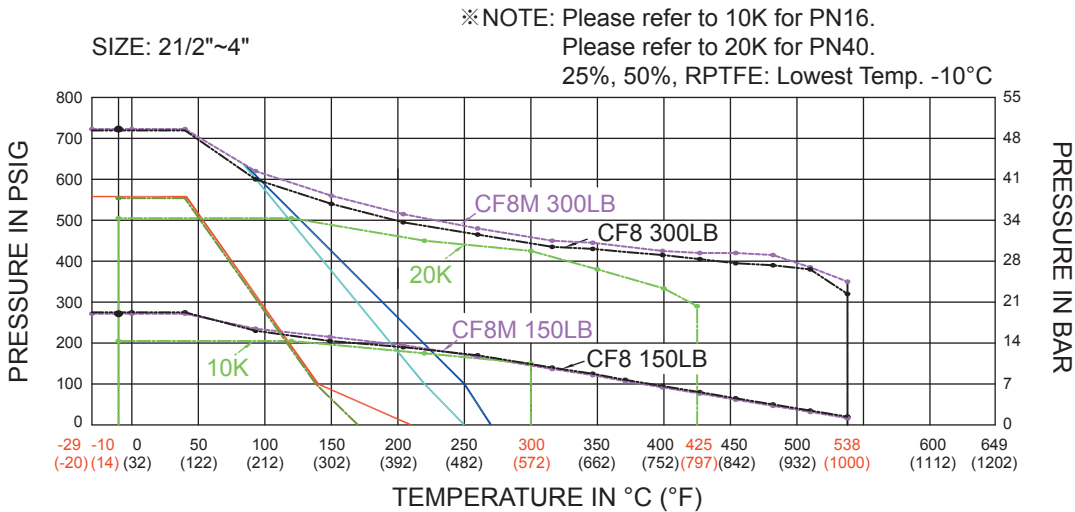
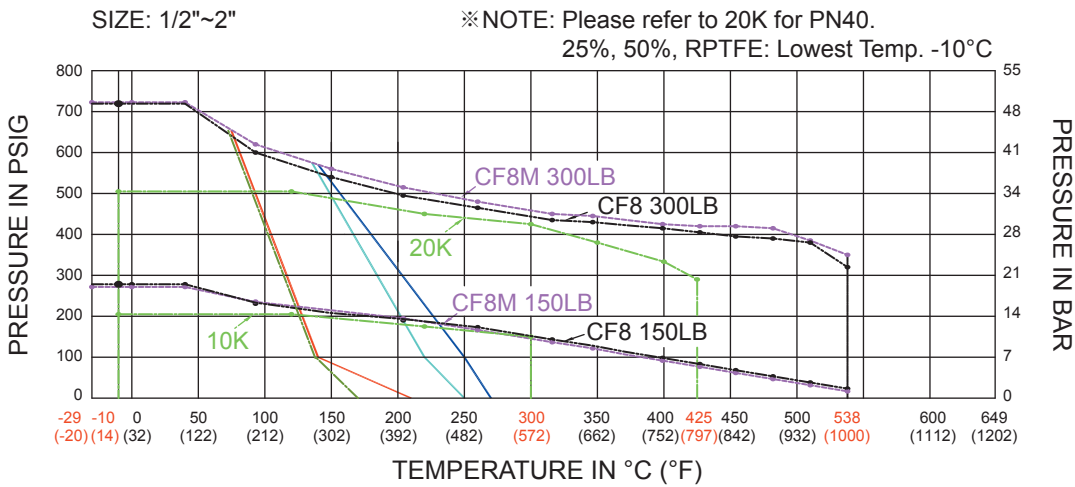
- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE



MODEL 203A, 204-5, 305, 705, 905

ASME B16.34-150LB 300LB
JIS B2220-10K 20K

- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE

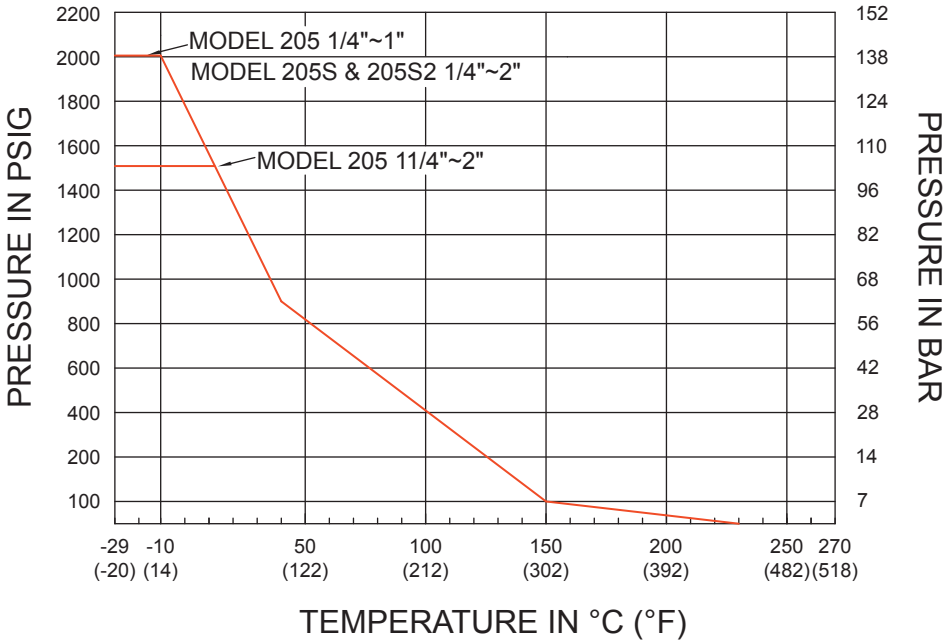


PRESSURE - TEMPERATURE RATINGS

PRESSURE-
TEMPERATURE RATINGS

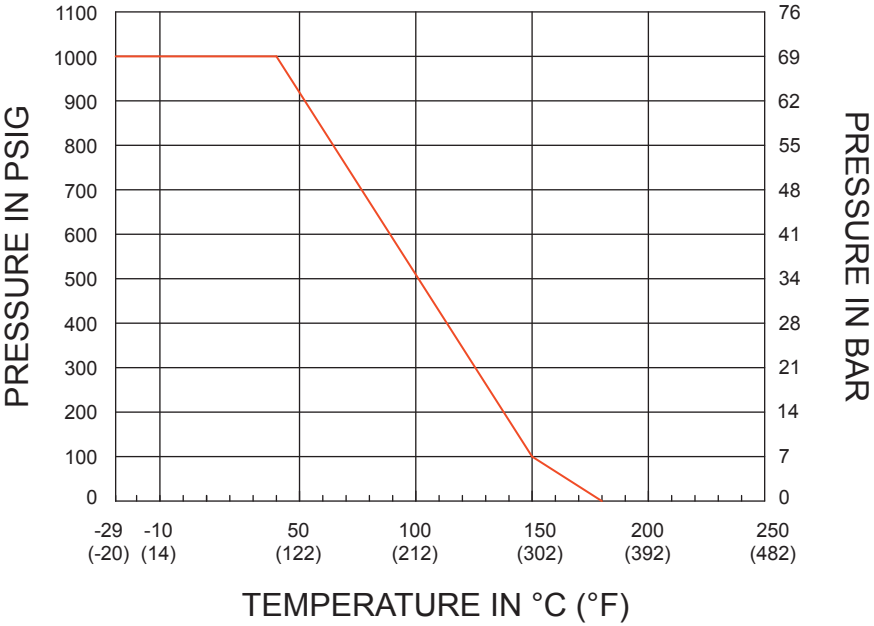
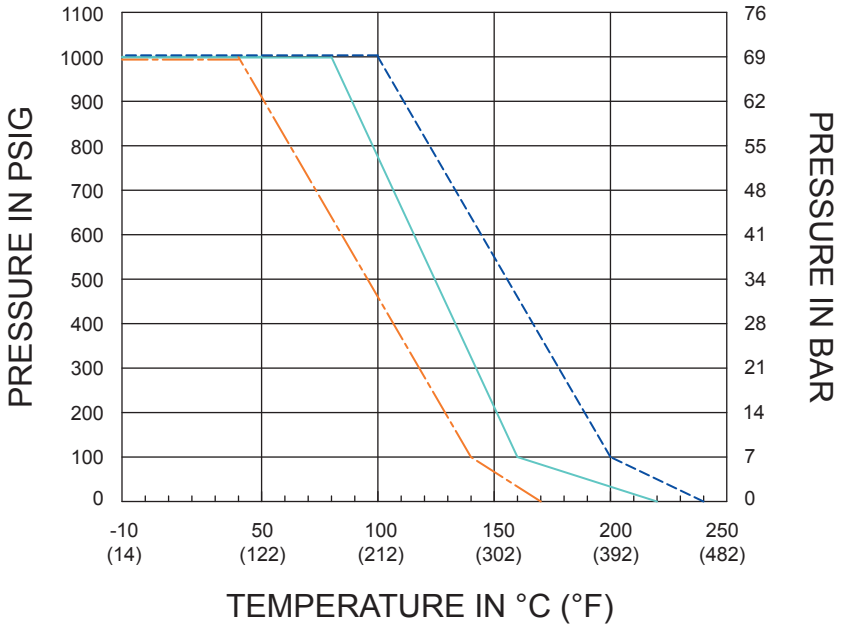
MODEL 205, 205S, 205S2

- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE



SERIES 30

- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE

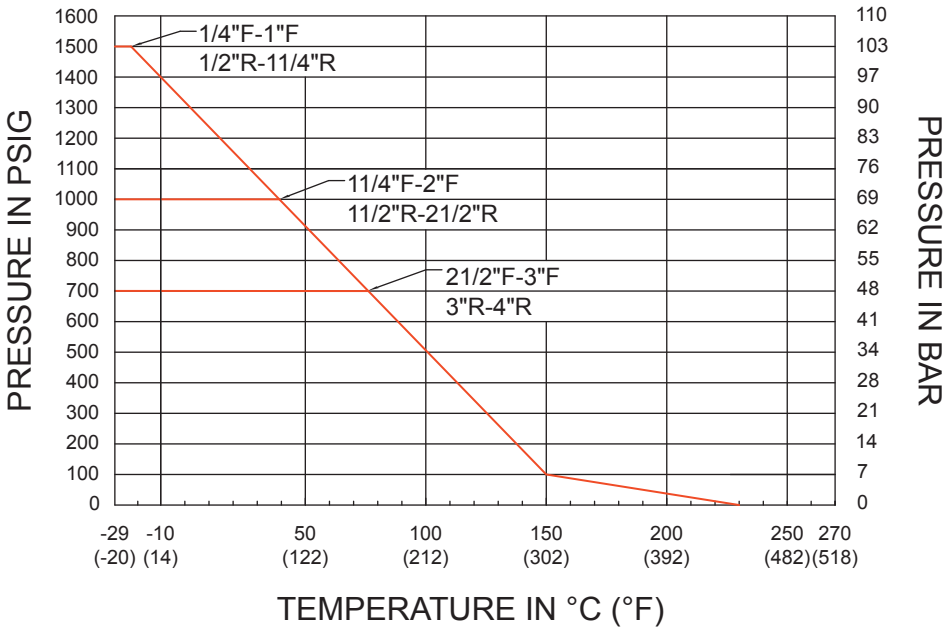
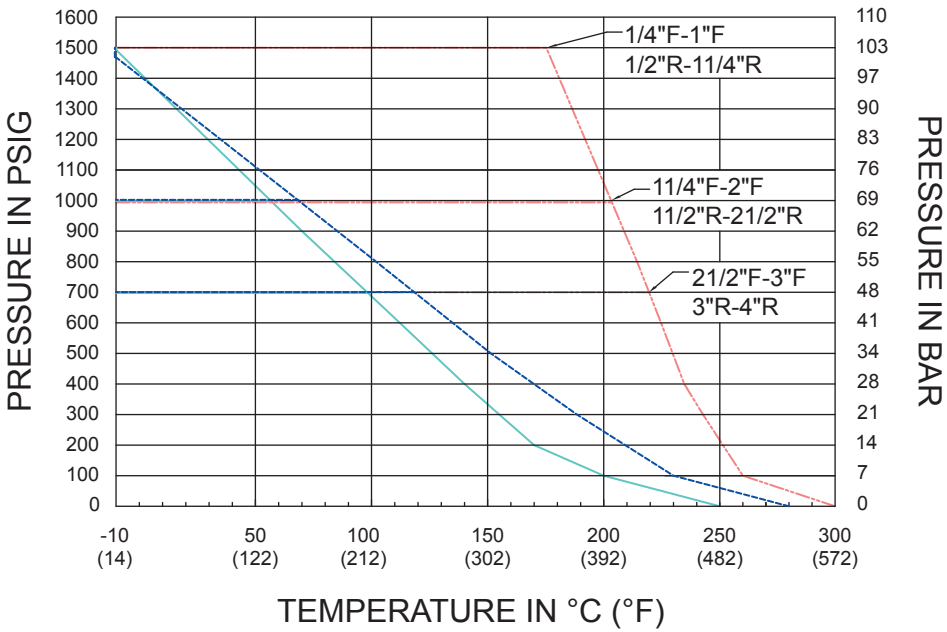


PRESSURE - TEMPERATURE RATINGS

PRESSURE-
TEMPERATURE RATINGS

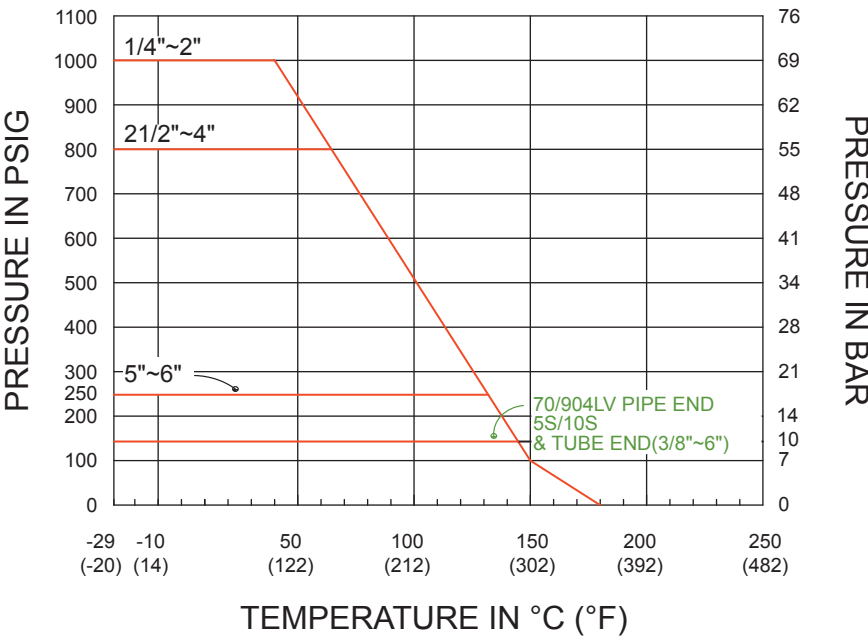
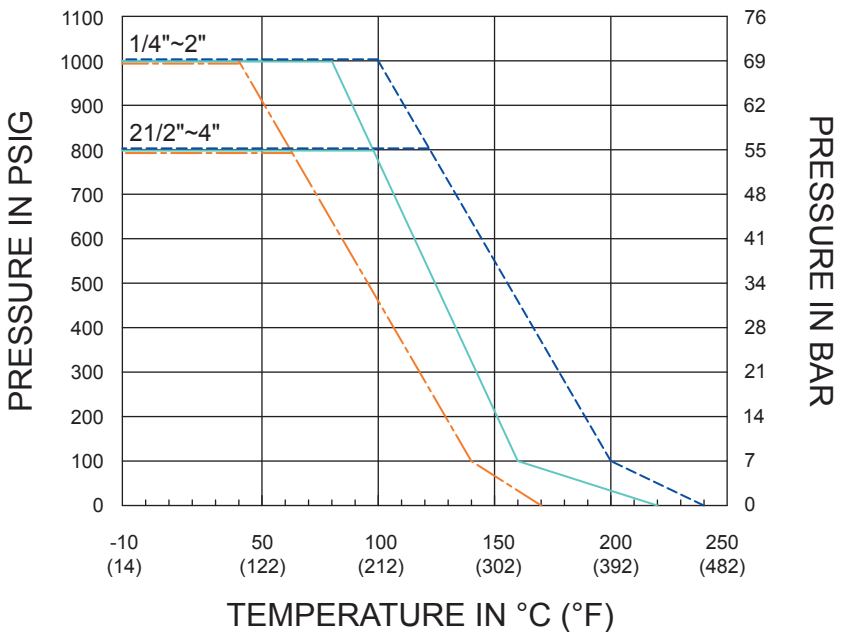
SERIES 85

- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE



SERIES 70, 90

- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE

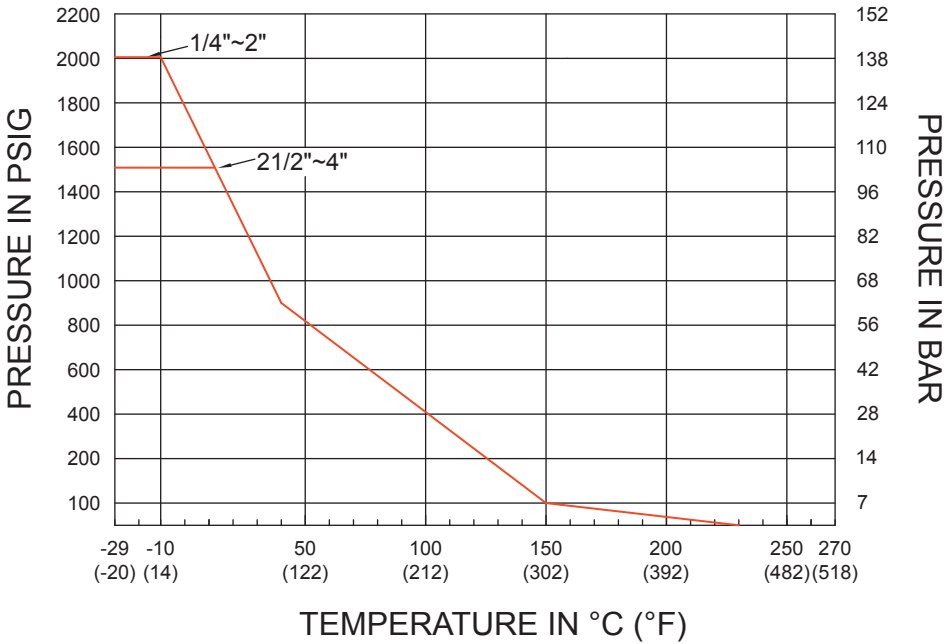
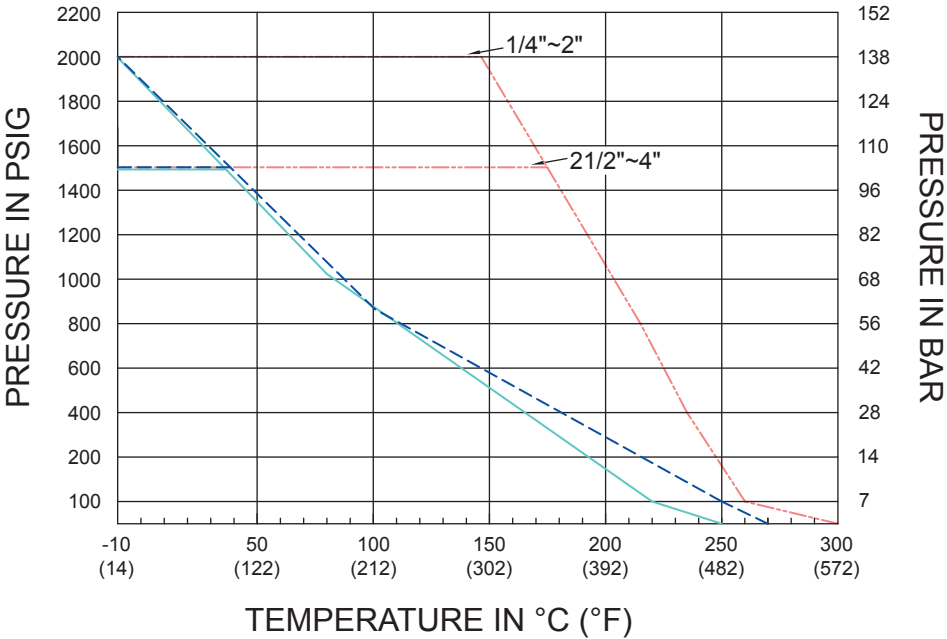


PRESSURE - TEMPERATURE RATINGS

PRESSURE-
TEMPERATURE RATINGS

- PTFE
- 25% CARBON FILLED PTFE
- 50% S.S. POWDER FILLED PTFE
- TFM1600
- PEEK
- RPTFE

SERIES 95



PRESSURE - TEMPERATURE RATINGS

OPERATING
BREAK-AWAY TORQUE

Unit: N · M

Model	203A	204-2 204-4	204-3	206	901 905	904LV (5S / 10S)	904LV (TU)	906 907	951 952 953	95K
Size										
1/4"	N/A	5.2	N/A	N/A	5	N/A	N/A	N/A	5	6.4
3/8"	N/A	5.2	N/A	N/A	5	6.4	N/A	N/A	5	6.4
1/2"	3.5	5.2	5.3	5	5	6.4	7	4.5	5	6.4
3/4"	5	7	5.3	6	6	7.4	7	6	6	10.4
1"	7	13	14.3	11	11	14.3	21.7	17	11	N/A
1 1/4"	10	20.8	N/A	15	15	24	31	N/A	15	N/A
1 1/2"	15	28.6	45.5	22	22	28.6	31.9	32	22	N/A
2"	20	72	68.9	26	26	40	43.6	44	26	N/A
2 1/2"	36	N/A	N/A	55	55	86.4	84.5	68	55	N/A
3"	42	N/A	N/A	75	75	108	117	90	75	N/A
4"	80	N/A	N/A	N/A	90	162	182	135	90	N/A
5"	144	N/A	N/A	N/A	144	280	336	N/A	N/A	N/A
6"	190	N/A	N/A	N/A	190	295	354	260	N/A	N/A

- Note:
- 1 Inch Pound = 0.113 Newton Meter
 - 1 Newton Meter = 0.885 Inch Pound
 - 20% safety factor is already added to the listed torque values.
 - Torque values are for each model with its standard equipment for clean media.
 - All figures can vary depending on temperature, pressure, flow media and seat types.
 - Contact us for oil-free requirement and other specific conditions.

COMPANY PROFILE

The company was established as Main Pillar Enterprise in Taichung in 1983. In response to the government's improvement of production quality, we produced the hand tool hardware by YF registered trademark, which made us one of the well-known and major hardware manufacturers in Taiwan.

In order to upgrade our products, we started to manufacture stainless steel flanges in 1988. In order to meet the demands of domestic and foreign markets, we purchased CNC computer lathes and CNC center cutting machines for mass production. We began to export our product to Europe and the United States, building up the foundation of the export market.

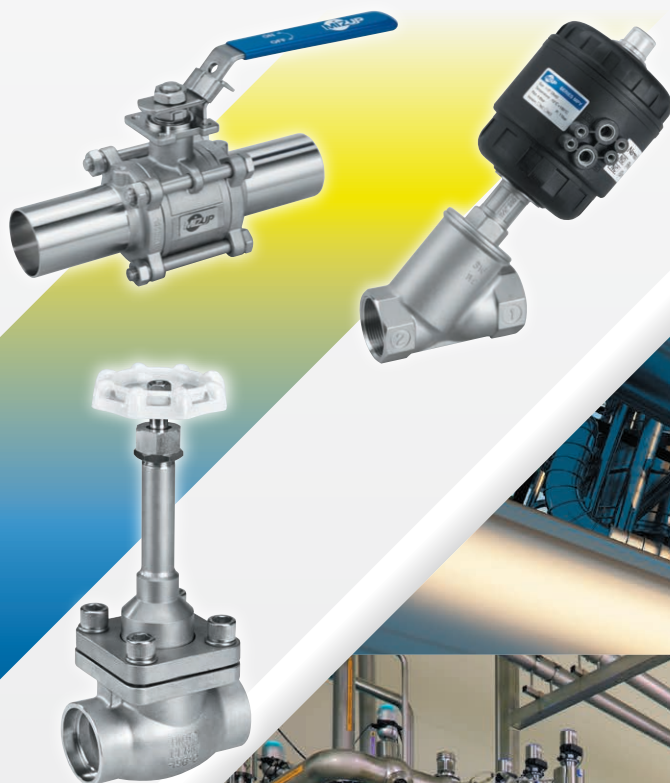
After years of efforts to implement factory standardization and comprehensive quality control, our products have developed from the early general industrial valves to various higher spec valves, such as semiconductor ultra-clean ball valves, sanitary ball valves, seawater desalination ball valves, API607 fire safe ball valves, cryogenic valves, automatic control valves and other products.

Now Mizup products are broadly used in both domestic and foreign markets. We will continue to meet the expectations of customers and concentrate on the stable supply of higher quality products.



HISTORY

- 2021** Successfully passed the API-607 7th Edition Fire Safe Test.
- 2019** Completed a second factory and started operation.
- 2017** Changed company's English name to MIZUP METAL CO., LTD. and LOGO.
- 2015** Built a larger warehouse to meet customers' varieties of requests.
- 2012** Acquired 203A Series Patent Certification.
- 2011** Acquired BA-Class Ultrahigh Purity Components Certification.
- 2010** Installed 20x Laser Spot Welding Lathe Machine.
- 2009** Installed ECB Polishing Machine.
- 2007** Established an investment casting foundry in Vietnam.
- 2005** Constructed Class 1000 Clean room.
- 1993** Moved to Taichung Industrial Park, began to manufacture stainless steel ball valves.
- 1991** Changed the company's Chinese name.
- 1988** Began to manufacture stainless steel flanges.
- 1983** Established as Main Pillar.



EQUIPMENTS



1 Room

Class 1000 Clean Room

Assemble, testing, and packing process can be all conducted in the clean room.



2 Units

Ultrasonic Cleaning Machine

1 unit consists of 6 tanks. Each tank contains either degreaser or pure-water or super-pure-water. Residual oil quantity: 0.5mg/ft² (Min).



2 Units

Electro Chemical Buffing

Able to polish 2 units per minute. Physical polish and electro polish can be done simultaneously. Through this process corrosion resistance will increase.



1 Unit

High Grade Air Pressure Test

Detectable max. leakage level: 1 PA (0.00001 bar)

ABOUT PRODUCTS

Connection Types

Threaded (BSP, BSPT, NPT) / Socket Weld / Butt Weld / Extended Butt Weld / Flanged / T-Clamp / Compression Fitting etc.

Working Pressure

Vacuum: 10⁻⁴torr ~ High pressure: 68.94MPa (≅10000PSI)
Flanged: JIS 10K / 20K, ANSI 150LB / 300LB, DIN PN16 / PN40

Working Temperature

-196°C ~ +300°C
-320.8°F ~ +572°F

Materials

A351-CF8, A351-CF8M, A351-CF3M, A216-WCB, A890-CE3MN
(JIS/DIN standards are available for some models.)

Production Quantity

25,000pcs / month (Max)

CERTIFICATIONS

We make every effort to provide high quality and reliable products and services that meet customer needs.



ISO 9001



PED CE0035



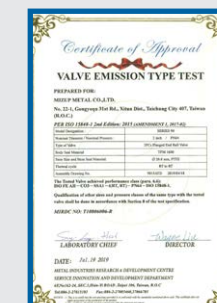
RoHS



REACH (SVHC)



EN BS6364



ISO 15848



API607



Purity Valve Total Test Report



Vacuum Helium Leak Test



Residual Oil Content Test



Patent Certificate of Model 203A Ball Valve

MANUFACTURING PROCESS

1 Investment Casting

- 1 Investment Casting
- 2 Metalworking
- 3 Incoming Inspection
- 4 High Purity Cleaning
- 5 Storing
- 6 Assembling



Mould Design
Micro Laser Welding

1



Fluid Dipping

4



Cutting and Grinding

7



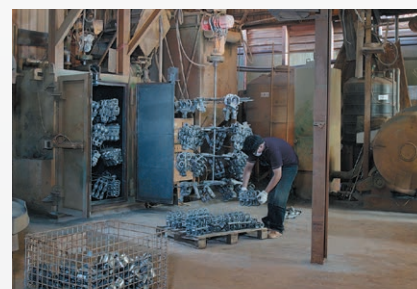
Wax Pattern Injection

2



Dewaxing

5



Sand Blasting

8



Pattern Assembly

3



Pouring

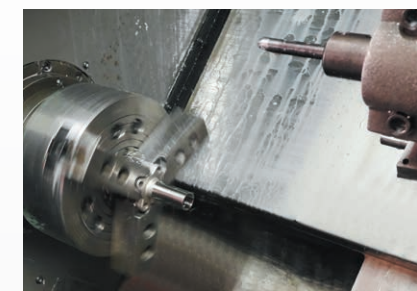
6



Heat Treatment

9

2 Metalworking



CNC Lathing

1



CNC Milling

2



Electro Chemical Buffing (ECB)

3

Creates the passivated flat surface to enhance anti-corrosive effect.

- Surface Roughness Ra max. 0.1µm
- R&D collaboration with MIRDC (Taiwanese Government Funded R&D Institute)
- Form anti-corrosive passivation layers on the surface.
- Stable quality and high efficiency.

MANUFACTURING PROCESS

 **3** Incoming Inspection

 **4** High Purity Cleaning

 **5** Storing

 **6** Assembling


 Dimension Inspection **1**

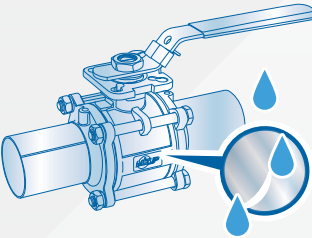

 12-Process Ultrasonic Cleaning
SOP Instruction(Standard Operation Procedures) **1**


 ERP Material Storage Management **1**


 Class 10000 Cleanroom
Class 10000 Assemble Operation
Self-contained air conditioning / Constant temperature **1**


 Surface Roughness Inspection **2**

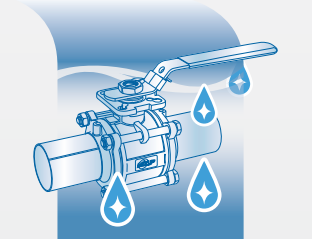

 Filtered Water **2**

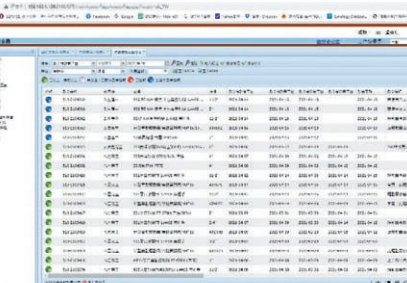

Using filtered water can reduce water stains.




 Class 1000 Cleanroom
Class 1000 Assemble Operation
Semi-conductor plant level **2**


 Ultrapure Water **3**


· For electronic grade.
· Water quality :
Max. **18MΩ.cm**
Semi-conductor plant level


 Production Tracking System
Strict Schedule Management
On-time delivery **3**


 Tightening
Torque Data Managemnet
Pneumatic tools / Standardization **4**