MV1F Series Data Sheet

Segmented Class 150

ISO 5211 Mount Ball Valve

Class 150
1" thru 16"

PED CE ISO

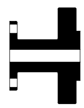
Features:

- Class 150
- Size Range 1" thru 16"
- ISO 5211 Mount Pad
- Body Material CF8M, WCB
- Body Wall Thickness ASME B16.34
- End Connections: RF Flanged
- Anti-Static Device and Live-Loaded Packing
- Bubble Tight Shut Off
- Blowout Proof, Low Torque Guided Stem Design
- Manual, Electric, Pneumatic Operators
- Soft & Metal Seated Available

Certifications & Compliance

Testing: API 598
Design: ASME B16.34, ASME B16.5, ASME B16.105
Markings: MSS-SP-25, PED
Certifications: PED

End Connections



Flanged (RF)

Segmented Ball Valve: A Versatile Solution

The segmented ball valve, characterized by its 100° segmented ball, offers a distinctive advantage in various industrial applications. Its unique design provides a more economical alternative to standard flanged valves with 90° balls, particularly at larger diameters, while offering superior modulation capabilities.

The segmented ball valve is particularly well-suited for handling slurries and media with stringy characteristics.
The segmented design facilitates a cutting action, minimizing the risk of material accumulation and ensuring efficient flow control. This feature akes it an ideal choice for applications where valve blockage or maintenance issues are common.

Torques (in-lbs)*

Size	TFM 1600 Torque	316 SS Torque
in	in-lbs	in-lbs
1"	230	319
1 1/4"	266	398
1 1/2"	460	602
2"	611	797
2 1/2"	673	885
3"	947	1239
4"	1018	1328
5"	1354	1770
6"	2036	2655
8"	3399	4425
10"	5443	9199
12"	9523	16094
14"	13612	23005
16"	19737	33356

*Raw torques shown. Minimum 30% safety factor should be added for actuator sizing.

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Exploded View & Bill of Materials

Body & Ball

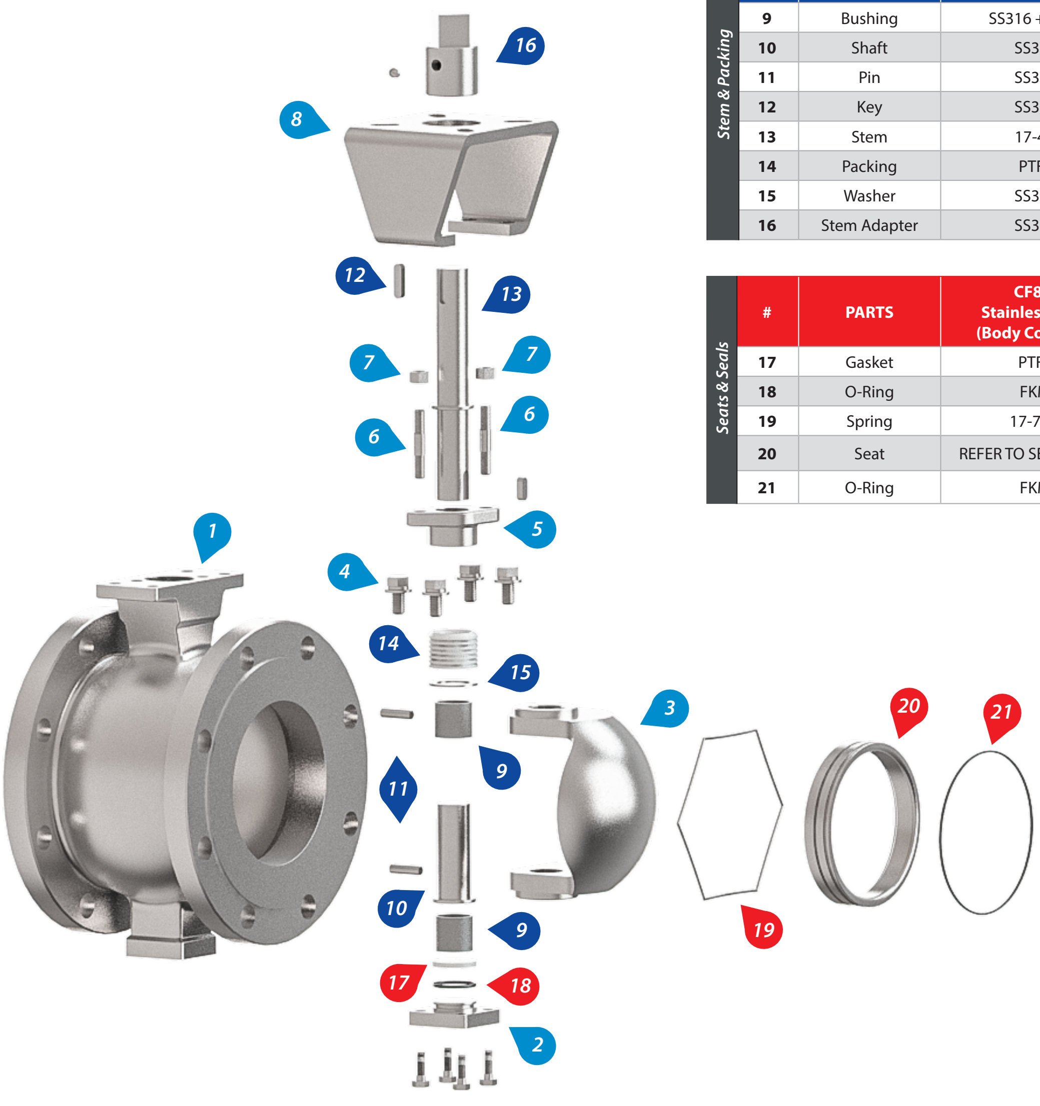
#	PARTS	CF8M Stainless Steel (Body Code "S")	WCB Carbon Steel (Body Code "C")
1	Body	ASTM A351 CF8M	ASTM A216 WCB
2	Cover	ASTM A351 CF8M	ASTM A216 WCB
3	Ball	ASTM A351 CF8M + HCR	ASTM A351 CF8M + HCR
4	Bolt	ASTM A193 B8M	ASTM A193 B7
5	Packing Gland	ASTM A351 CF8M	ASTM A216 WCB
6	Stud	ASTM A193 B8M	ASTM A193 B7
7	Nut	ASTM A194 8M	ASTM A194 2H
8	Yoke	ASTM A3	ASTM A3

Stem & Packing

#	PARTS	CF8M Stainless Steel (Body Code "S")	WCB Carbon Steel (Body Code "C")
9	Bushing	SS316 + PTFE	SS316 + PTFE
10	Shaft	SS316	SS316
11	Pin	SS316	SS316
12	Key	SS316	SS316
13	Stem	17-4H	17-4H
14	Packing	PTFE	PTFE
15	Washer	SS316	SS316
16	Stem Adapter	SS316	SS316

Seats & Seals

#	PARTS	CF8M Stainless Steel (Body Code "S")	WCB Carbon Steel (Body Code "C")
17	Gasket	PTFE	PTFE
18	O-Ring	FKM	FKM
19	Spring	17-7PH	17-7PH
20	Seat	REFER TO SEAT GUIDE	REFER TO SEAT GUIDE
21	O-Ring	FKM	FKM



Blue Light = Body & Ball

Blue = Stem & Packing

Red = Seats & Seals

MV1F Series Data Sheet

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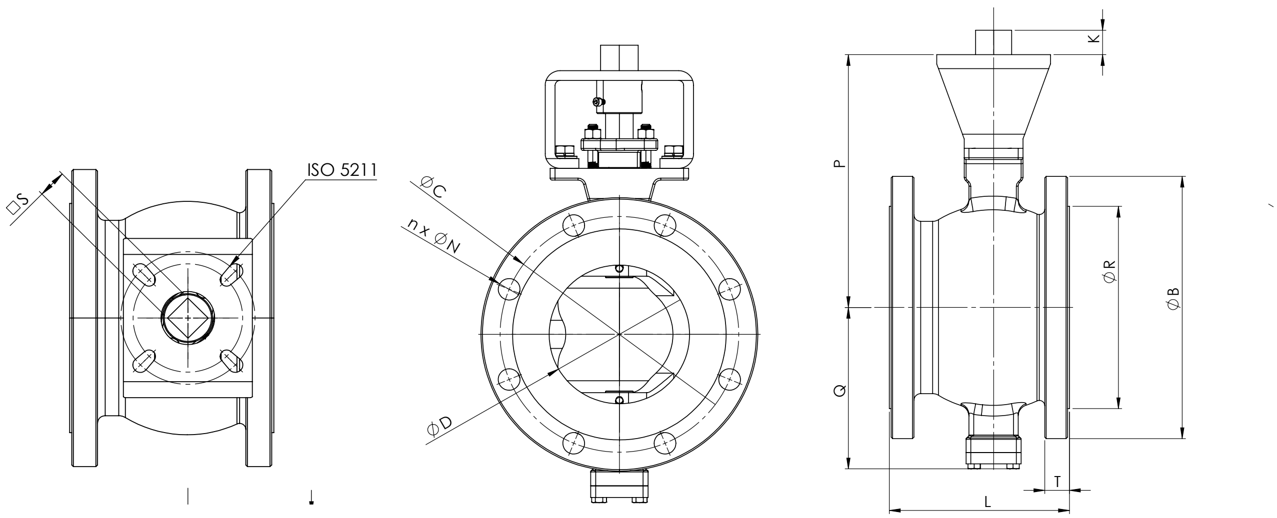
Dimensional Data



Standard Dimensions (in)

Size	ØD	L	T	ØR	ØC (BCD)	ØB	P	ØN	n	S	K	ISO 5211	WEIGHT
in	in	in	in	in	in	in	in	in		in	in		lb
1"	0.79	4.02	0.46	2.00	3.13	4.33	5.16	0.63	4	0.433	0.71	F07	11.2
1-1/4"	0.98	4.02	0.52	2.50	3.50	4.53	5.55	0.63	4	0.433	0.71	F07	14.6
1-1/2"	1.26	4.49	0.58	2.87	3.87	4.92	5.43	0.63	4	0.433	0.71	F07	16.5
2"	1.57	4.88	0.64	3.63	4.75	5.91	5.83	0.75	4	0.433	0.71	F07	19.8
2-1/2"	2.17	5.71	0.70	4.13	5.50	7.09	6.42	0.75	4	0.433	0.71	F07	27.8
3"	2.56	6.50	0.77	5.00	6.00	7.48	8.07	0.75	4	0.551	0.81	F07-F10	36.4
4"	3.15	7.64	0.96	6.19	7.50	9.06	8.46	0.75	4	0.551	0.81	F07-F10	46.3
5"	3.94	7.64	0.96	7.31	8.50	10.04	9.92	0.87	8	0.866	1.06	F07-F10	88.2
6"	4.96	9.02	1.02	8.50	9.50	11.02	10.63	0.87	8	0.866	1.18	F10-F12	*
8"	6.22	9.57	1.14	10.63	11.75	13.58	11.89	0.87	8	0.866	1.18	F10-F12	117.9
10"	7.80	11.69	1.20	12.75	14.25	15.94	14.37	1.02	12	1.063	1.57	F12-F14	194.0
12"	9.84	13.31	1.27	15.00	17.00	19.09	16.14	1.02	12	1.063	1.57	F14-F16	*
14"	11.10	15.75	1.39	16.25	18.75	21.06	17.44	1.14	12	1.417	1.57	F14-F16	*
16"	12.44	15.75	1.46	18.50	21.25	23.43	18.82	1.14	16	1.811	1.89	F16-F20	*

Metric Dimensions (mm)

Size	ØD	L	T	ØR	ØC (BCD)	ØB	P	ØN	n	S	K	ISO 5211	WEIGHT
mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm		kg
DN25	20	102	11.6	50.8	79.4	110	131	16	4	11	18	F07	5.1
DN32	25	102	13.2	63.5	88.9	115	141	16	4	11	18	F07	6.6
DN40	32	114	14.7	73	98.4	125	138	16	4	11	18	F07	7.5
DN50	40	124	16.3	92.1	120.7	150	148	19	4	11	18	F07	9.0
DN65	55	145	17.9	104.8	139.7	180	163	19	4	11	18	F07	12.5
DN80	65	165	19.5	127	152.4	190	205	19	4	14	20.5	F07-F10	16.5
DN100	80	194	24.3	157.2	190.5	230	215	19	4	14	20.5	F07-F10	21.0
DN125	100	194	24.3	185.7	215.9	255	252	22	8	22	27	F07-F10	-
DN150	126	229	25.9	215.9	241.3	280	270	22	8	22	30	F10-F12	40.0
DN200	158	243	29	269.9	298.5	345	302	22	8	22	30	F10-F12	53.5
DN250	198	297	30.6	323.8	362	405	365	26	12	27	40	F12-F14	88.0
DN300	250	338	32.2	381	431.8	485	410	26	12	27	40	F14-F16	-
DN350	282	400	35.4	412.8	476.3	535	443	29	12	36	40	F14-F16	-
DN400	316	400	37	469.9	539.8	595	478	29	16	46	48	F16-F20	-

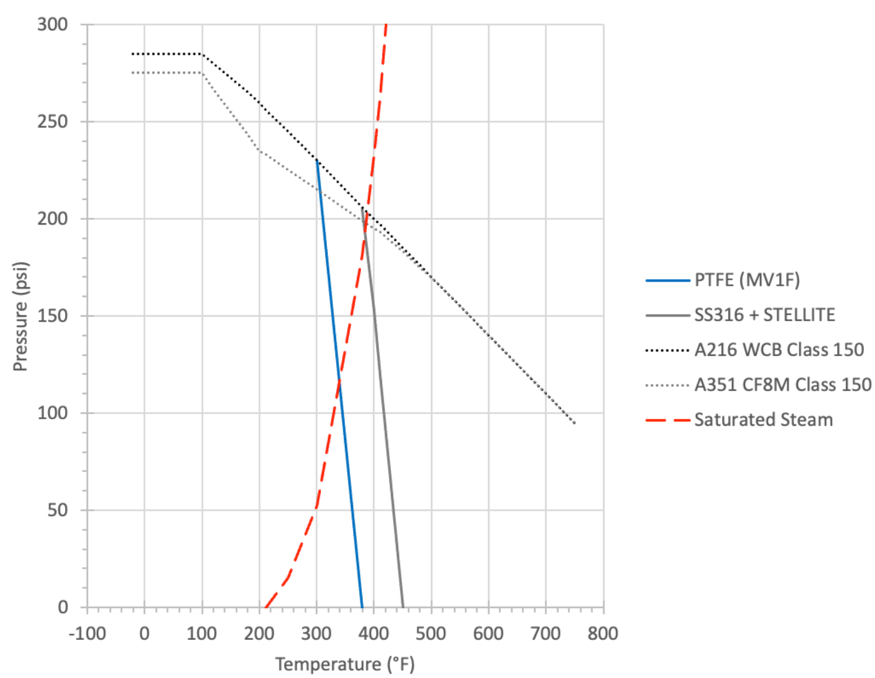
MV1F Series Data Sheet

MVF1 Series Seat Guide

PTFE (VIRGIN PTFE)	*SS316 + STELLITE*
RECOMMENDED	**RECOMMENDED**
Most Chemicals, Low to Moderate Cycling	High Temperatures, Extreme Abrasives, Harsh Flow Conditions
NOT RECOMMENDED	**NOT RECOMMENDED**
High Cycle Applications, Fluorinated Chemicals	Bubble Tight Shutoff Requirements
TEMPERATURE	**TEMPERATURE**
-45°C to + 204°C (-50°F to +400°F)	-45°C to + 232°C (-50°F to + 450°F)
COLOR	**COLOR**
 *White*	 *Dark Grey*

* Seat material selection involves a large number of process variables and can be somewhat complex. If you do not have any experiential knowledge of what materials work well in your process, it is recommended that you contact Sesto Valves for guidance in selecting the appropriate materials. Selection of a non-optimal material can significantly shorten the valve's service life. This information is only provided as a general guideline of applications in which these seat materials are known to work well or are not recommended.

Pressure Temperature Chart



MV1F Series Data Sheet

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Cv Values

Size		Percent Open									
NPS	DN	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
1"	25	0.0	0.4	1.3	2.6	4.3	6.4	9.1	12.0	17.0	27.0
1-1/4"	32	0.1	0.7	2.3	4.4	7.5	11.0	16.0	22.0	30.0	46.0
1-1/2"	40	0.1	1.1	3.5	6.7	11.0	17.0	24.0	33.0	45.0	69.0
2"	50	0.1	1.7	5.4	10.0	18.0	26.0	37.0	51.0	70.0	109.0
2-1/2"	65	0.2	2.7	8.4	16.0	27.0	40.0	57.0	79.0	108.0	168.0
3"	80	0.3	4.4	14.0	27.0	45.0	67.0	95.0	130.0	179.0	277.0
4"	100	0.5	7.5	23.0	45.0	75.0	112.0	159.0	218.0	300.0	466.0
5"	125	0.7	11.0	35.0	67.0	112.0	166.0	237.0	325.0	447.0	694.0
6"	150	0.8	12.0	39.0	74.0	125.0	185.0	263.0	362.0	497.0	772.0
8"	200	1.7	27.0	85.0	163.0	276.0	409.0	581.0	799.0	1097.0	1703.0
10"	250	2.1	33.0	104.0	200.0	337.0	499.0	710.0	976.0	1340.0	2081.0
12"	300	3.8	60.0	188.0	361.0	610.0	903.0	1284.0	1765.0	2424.0	3764.0
14"	350	6.4	102.0	319.0	612.0	1033.0	1530.0	2174.0	2990.0	4106.0	6375.0
16"	400	8.4	135.0	421.0	809.0	1366.0	2023.0	2874.0	3953.0	5429.0	8430.0

MV1F Series Data Sheet

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MV1F Series Part # Builder

A - Figure	B- Size	C - Body	D - Trim	E - Type	F - Seat	G - Operator	H - Special
MV1F	01	S	7	V	T	N	-

*Note: 1) Not all combinations available, and special solutions not shown are possible. Please call factory for details. 2) Max-Air Technology reserves the right to change or modify products without prior notice & without incurring any obligation to make such changes on products previously or subsequently sold.

Example Part # MV1F-01-S7VT-N

EXAMPLE DESCRIPTION: 1" MV1F SERIES SEGMENTED BALL VALVE, CLASS 150, 100 DEGREE V-NOTCH, FLANGED ENDS, ISA 75.04 FACE-TO-FACE, ASTM A351 GR CF8M BODY, ASTM A351 GR CF8M + HCR PLATED BALL, 17-4 PH STEM, PTFE SEAT, VITON O-RING, PTFE PACKING, BARE STEM

A - FIGURE	B - SIZE				C - BODY
MV1F - *CLASS #150 FLANGED SEGMENTED BALL VALVE*	*0M - 1/2"* *0T - 3/4"* *01 - 1"* *1Q - 1 1/4"*	*1Q - 1 1/4"* *1M - 1 1/2"* *02 - 2"* *2M - 2 1/2"* *03 - 3"*	*04 - 4"* *05 - 5"* *06 - 6"* *07 - 7"* *08 - 8"* *10 - 10"*	*12 - 12"* *14 - 14"* *16 - 16"*	*C - ASTM A216 - WCB* *S - ASTM A351 CF8M* *9 - SPECIAL*

A - TRIM	B - TYPE	C - SEATS	D - OPERATOR	E - SPECIAL
7 - 316 SS + HCR BALL / 17 - 4PH STEM *9 - SPECIAL*	*V - 100" V-NOTCH BALL*	*T - PTFE* *X - 316SS + STELLITE* *9 - SPECIAL*	*N - BARE STEM* *9 - SPECIAL*	*CONSULT FACTORY*