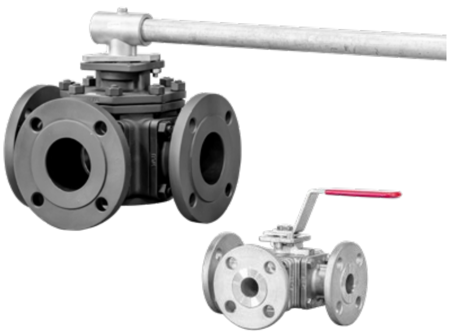
MM1F Series Data Sheet

SESTO VALVES
A Brand of Max-Air Technology.

Max-Air TECHNOLOGY®

Multiport Flanged Class 150

Firesafe Direct Mount Ball Valve



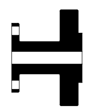
Features:

- Class 150 Size
- Range 1/2" thru 12" Full Bore
- ISO 5211 Direct Mount (Up to 4")
- Non Direct Mount 5"-12"
- 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

Certifications & Compliance

Testing: API 598, ISO 5208
Design: ASME B16.34, ASME B16.5, ASME B16.105
Markings: MSS-SP-25, PED
Certifications: SIL, PED

End Connections



Flanged (RF)

PED ISO SIL3 Safety Integrity Level CE

4-Seat Design

Multiport ball valve applications can present unique challenges for reliable valve sealing. With three or more ports, the valve must be able to seal in at least two different positions. To successfully achieve this requires either a designated flow direction or a seat design that allows for sealing from multiple directions. To address this, we incorporate a 4th seat on the blind flange. This allows consistent seating of the ball regardless of flow direction

Torques (in-lbs)*

Size	TFM 4215
in	in-lbs
1/2"	136
3/4"	164
1"	266
1.25"	586
1.5"	586
2"	763
2.5"	1431
3"	1567
4"	2520
5"	4779
6"	5066
8"	6192
10"	8497
12"	11683

Torques (Nm)*

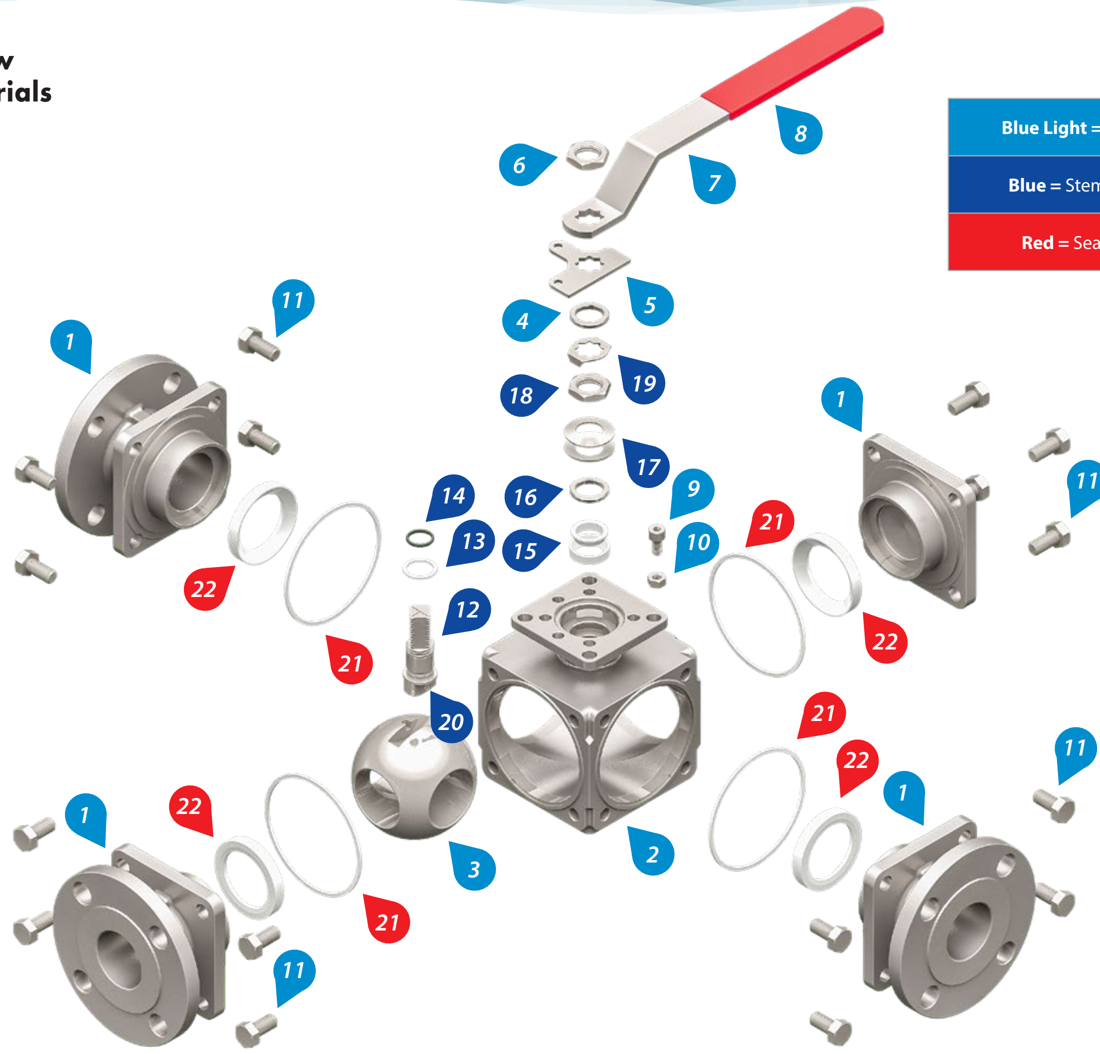
Size	TFM 4215 Torque
DN	Nm
DN15	15
DN20	19
DN25	30
DN32	45
DN40	66
DN50	86
DN65	162
DN80	177
DN100	285
DN125	540
DN150	572
DN200	700
DN250	960
DN300	1320

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

MM1F Series Data Sheet

SESTO VALVES
A Brand of Max-Air Technology.

Exploded View & Bill of Materials



Blue Light = Body & Ball

Blue = Stem & Packing

Red = Seats & Seals

Body & Ball

#	PARTS	CF8M Stainless Steel (Body Code "S")	WCB Carbon Steel (Body Code "C")
1	Flange End	ASTM A351 CF8M	ASTM A216 WCB
2	Body	ASTM A351 CF8M	ASTM A216 WCB
3	Ball	ASTM A351 CF8M + HCR	ASTM A351 CF8M + HCR
4	Space Washer	SS 304	SS 304
5	Stop Plate	SS 304	SS 304
6	Handle Nut	SS 304	SS 304
7	Handle	SS 304	SS 304
8	Handle Sleeve	PLASTISOL	PLASTISOL
9	Stop Pin	SS 304	SS 304
10	Stop Pin Nut	SS 304	SS 304
11	Flange End Bolts	ASTM A193-B8	ASTM A193-B7

Stem & Packing

#	PARTS	CF8M Stainless Steel (Body Code "S")	WCB Carbon Steel (Body Code "C")
12	Stem	SS316	SS316
13	Thrust Washer	RTFE	RTFE
14	O-Ring	VITON	VITON
15	Stem Packing	PTFE	PTFE
16	Gland	SS304	SS304
17	Bellville Washer	304CSP	304CSP
18	Stem Nut	SS304	SS304
19	Nut Stop	SS304	SS304
20	Anti Static Device	SS304	SS304

Seats & Seals

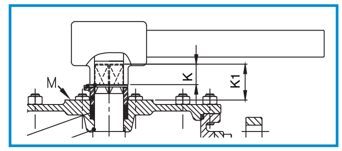
#	PARTS	CF8M Stainless Steel (Body Code "S")	WCB Carbon Steel (Body Code "C")
21	Gasket	TFM 1600	TFM1600
22	Seat	TFM	TFM

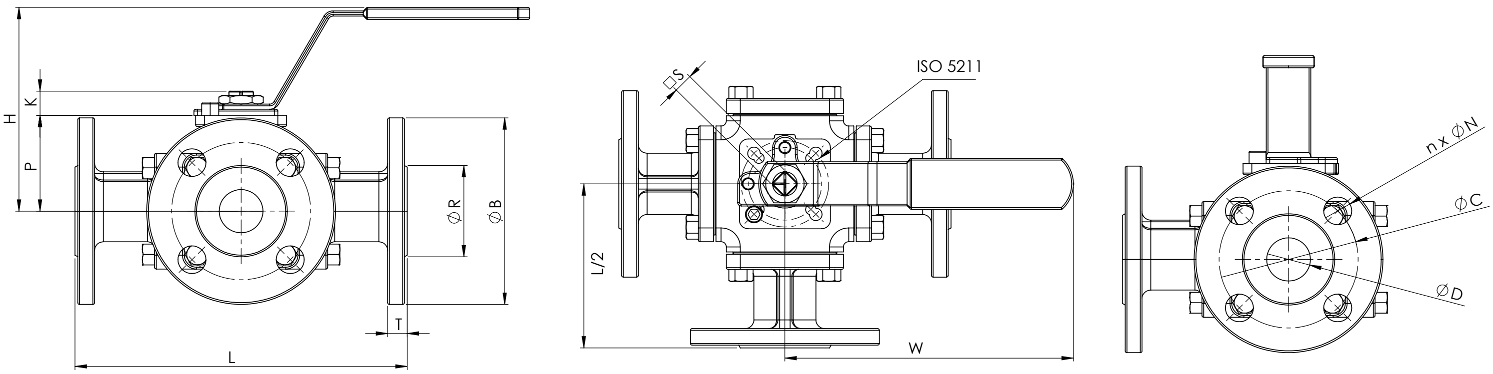
MM1F Series Data Sheet

SESTO VALVES
A Brand of Max-Air Technology.

Dimensional Data

Non-Direct Mount View
5" - 12" Sizes





Standard Dimensions (in)

Size	D	L	T	R	C	B	P	N	n	H	W	S	K	K1	M	ISO 5211	WEIGHT
in	in	in	in	in	in	in	in	in		in	in	in	in	in			lb
1/2"	0.59	5.98	0.44	1.38	2.38	3.50	1.65	0.63	4	4.13	5.12	0.35	0.43	-	-	F03-F04	7.6
3/4"	0.79	6.57	0.44	1.69	2.76	3.86	1.91	0.63	4	4.33	6.50	0.43	0.55	-	-	F04-F05	8.9
1"	0.98	7.48	0.44	2.01	3.13	4.25	2.19	0.63	4	4.65	6.50	0.43	0.55	-	-	F04-F05	13.0
1.25"	1.26	8.19	0.50	2.52	3.50	4.61	2.48	0.63	4	4.65	8.07	0.55	0.67	-	-	F05-F07	*
1.5"	1.50	8.66	0.56	2.87	3.88	5.00	2.89	0.63	4	5.04	8.07	0.55	0.63	-	-	F05-F07	27.3
2"	1.97	9.96	0.62	3.62	4.74	5.98	3.64	0.75	4	5.51	12.80	0.67	0.83	-	-	F07-F10	46.8
2.5"	2.44	11.81	0.70	4.13	5.49	7.01	4.67	0.75	4	0.00	15.75	0.87	0.98	-	-	F10	62.7
3"	2.99	12.01	0.75	5.00	6.00	7.48	5.37	0.75	4	0.00	19.69	0.87	0.98	-	-	F10	75.4
4"	3.78	14.51	0.94	6.18	7.50	9.02	6.16	0.75	8	0.00	25.59	0.87	0.98	-	-	F10	142.5
5"	4.92	16.46	0.94	7.32	8.50	10.00	5.53	0.87	8	10.04	33.86	1.10	2.32	1.42	M12	F12	*
6"	5.91	16.81	1.00	8.50	9.51	11.00	6.28	0.87	8	11.57	47.24	1.42	2.44	1.42	M12	F12	266.9
8"	7.87	20.94	1.13	10.63	11.75	13.50	7.91	0.87	8	13.19	59.06	1.42	2.44	1.42	M12	F12	507.8
10"	9.76	25.98	1.19	12.76	14.25	16.00	9.92	1.00	12	15.55	78.74	1.42	2.99	1.69	M16	F14	*
12"	11.65	31.57	1.28	15.00	17.01	19.02	11.97	1.02	12	19.69	98.43	1.81	4.33	2.76	M20	F16	*

Metric Dimensions (mm)

Size	D	L	T	R	C	B	P	N	n	H	W	S	K	K1	M	ISO 5211	WEIGHT
in	in	in	in	in	in	in	in	in		in	in	in	in	in			lb
DN15	15	152	11.2	35	60.5	89	42	16	4	105	130	9	11	-	-	F03-F04	3.4
DN20	20	167	11.2	43	70	98	48.5	16	4	110	165	11	14	-	-	F04-F05	4.0
DN25	25	190	11.2	51	79.5	108	55.5	16	4	118	165	11	14	-	-	F04-F05	5.9
DN32	32	208	12.7	64	89	117	63	16	4	118	205	14	17	-	-	F05-F07	8.5
DN40	40	220	14.3	73	98.5	127	73.5	16	4	128	205	14	16	-	-	F05-F07	12.4
DN50	50	253	15.8	92	120.5	152	92.5	19	4	140	325	17	21	-	-	F07-F10	21.2
DN65	65	300	17.8	1015	139.5	178	118.5	19	4	168	400	22	25	-	-	F10	28.4
DN80	80	305	19.1	127	152.5	190	136.5	19	4	186	500	22	25	-	-	F10	34.2
DN100	100	368.5	24	157	190.5	229	156.5	19	8	206	650	22	25	-	-	F10	64.6
DN125	125	148	23.9	186	215.9	254	139.5	22	8	255	860	28	59	36	M12	F12	92.7
DN150	150	427	25.4	216	241.5	279.3	160	22	8	294	1200	36	62	36	M12	F12	121.1
DN200	200	532	28.6	270	298.45	343	201	22	8	335	1500	36	62	36	M12	F12	230.3
DN250	250	660	30.2	324	362	406.4	254	25.4	12	395	2000	36	76	43	M16	F14	342.0
DN300	300	802	32.5	381	432	483	303	26	12	500	2500	46	110	70	M20	F16	380.0

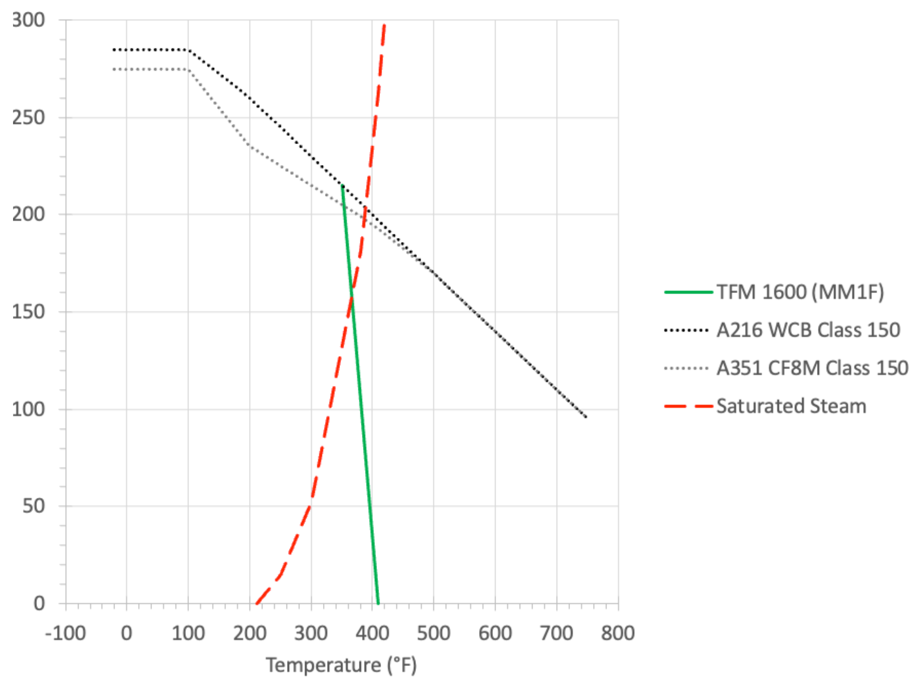
MM1F Series Data Sheet

MM1F Series Seat Guide

TFM 1600 (Modified PTFE)
RECOMMENDED
Chemical Environments, Steam, Moderate Pressures
Not Recommended
Fluorinated Chemicals
TEMPERATURE
-45°C to +232°C (-50°F to + 450°F)
COLOR
 *Translucent White*

* 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



MM1F Series Data Sheet

SESTO VALVES
A Brand of Max-Air Technology.

Cv Values

Full Port

Size	L-Port	T-Port (through)	T-Port (branch)	X-Port (full)
1/2"	13	25	9	7
3/4"	23	46	20	12
1"	35	70	25	18
1-1/4"	-	-	-	-
1-1/2"	81	162	62	42
2"	153	309	112	80
2-1/2"	186	376	140	97
3"	290	589	248	151
4"	466	941	414	243
5"	-	-	-	-
6"	1595	3222	1150	832
8"	2162	4368	1751	1128
10"	-	-	-	-
12"	-	-	-	-

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

MM1F Series Data Sheet

SESTO VALVES
A Brand of Max-Air Technology.

MM1F Series Part # Builder

A - Figure	B- Size	C - Body	D - Trim	E - Type	F - Seat	G - Operator	H - Special
MM1F	01	C	6	0	F	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 # MM1F-01-C6LF-L

EXAMPLE DESCRIPTION: 1" MM1F SERIES FLOATING MULTIPORT BALL VALVE, CLASS 150, L-PORT, FLANGED ENDS, ASTM A216 GR WCB BODY, ASTM A351 GR CF8M BALL, ASTM A276-316 STEM, TFM 1600 SEATS, VITON O-RING, TFM PACKING, B8 COVER BOLTS, W/ LOCKING LEVER HANDLE

A - FIGURE	B - SIZE				C - BODY
MM1F - *FLOATING MULTIPORT 150# FLANGED BALL VALVE, FULL PORT*	*0M - 1/2"* *0T - 3/4"* *01 - 1"* *1Q - 1 1/4"*	*1M - 1 1/2"* *02 - 2"* *2M - 2 1/2"* *03 - 3"*	*04 - 4"* *05 - 5"* *06 - 6"* *08 - 8"*	*10 - 10"* *12 - 12"*	*C - ASTM A216 GR WCB* *S - ASTM A351 CF8M* *9 - SPECIAL*

A - TRIM	B - TYPE	C - SEATS	D - OPERATOR	E - SPECIAL
6 - 316 SS BALL / 316 SS STEM *9 - SPECIAL*	*T - T-PORT* *L - L-PORT*	*G - TFM 4215* *9 - SPECIAL*	*N - BARE STEM* *L - LOCKING LEVER* *9 - SPECIAL*	*CONSULT* *FACTORY*