Kingdom
FLOW CONTROL CO., LTD.

KV-M1F, M2F / KV-M1FF, M2FF

(Bracket Mount Standard Type) (Bracket Mount Fire Safe Type)

ASME Class 150/300
1-PC Body, Reduced Port, Flanged Ends Ball Valve

180803

DESIGN FEATURES

- Built-in ISO 5211 Mounting Pad Easy Automation
- Fire Safe Design Approved
- Anti-static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- NACE MR-0175 (Optional)
- Casting Approved by TÜV AD 2000-Merkblatt W0
- Options:1.Actuator 2.Limit Switch 3.Positioner

APPLICABLE STANDARDS

- Design Standard : ASME B16.34
- Frie Design : API 607 5th 2005, ISO10497
- Face To Face : ASME B16.10
- Flanged End : ASME B16.5 Class 150 / 300
- Inspection & Testing : API 598

CV VALUES

NPS	CV	
	Class 150	Class 300
½	15	15
¾	18	18
1	36	36
1¼	48	48
1½	93	93
2	165	165
2½	207	207
3	450	450
4	780	780
6	1360	1360

WEIGHT

NPS	KV-M1F/M1FF		KV-M2F/M2FF	
	Weight (kg)	Weight (lb)	Weight (kg)	Weight (lb)
½	1.3	2.9	2.0	4.4
¾	1.6	3.6	2.9	6.4
1	2.4	5.3	4.1	9.1
1¼	3.3	7.3	5.4	11.9
1½	4.6	10.2	8.0	17.7
2	6.7	14.8	10.2	22.5
2½	10.5	23.2	15.9	35.1
3	14.5	32.0	22.8	50.3
4	22.6	49.8	35.2	77.6
6	45.0	99.2	51.6	113.7

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TORQUE VALUES

Close to Open Torque at Various Differential Pressure (△P), Standard Seats (TFM1600&PTFE)

unit : in·lb / N·m

Size/△P	75 psig		150 psig		300 psig		700 psig	
	5 bar		10 bar		20 bar		50 bar	
NPS	N·m	In·lb	N·m	In·lb	N·m	In·lb	N·m	In·lb
½	5	44	5	44	5	44	5	44
¾	6	53	6	53	6	53	6	53
1	8	72	8	72	8	72	9	80
1¼	12	106	12	106	13	116	13	116
1½	15	133	15	133	17	152	19	168
2	22	195	23	204	25	220	28	248
2½	31	275	33	292	36	320	40	354
3	48	425	51	461	55	487	60	531
4	72	638	80	708	90	795	96	850
6	130	1151	140	1239	156	1380	164	1450

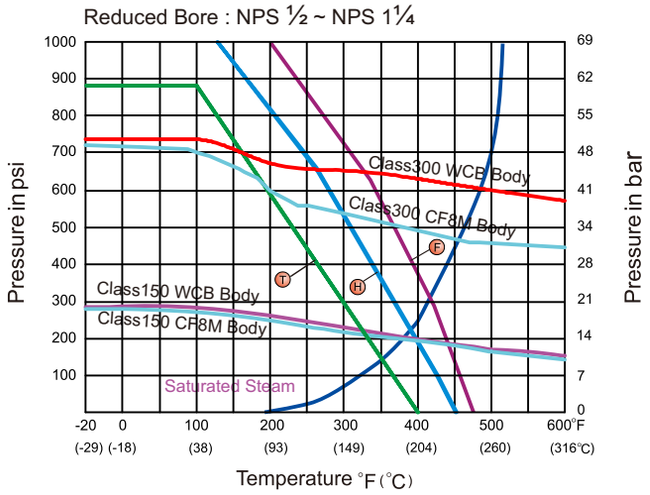
Remark : 1.Torques will increase about 30% if seat materials are Reinforced Fiber-Glass PTFE, Carbon-filled. PTFE or EK+PTFE or EK+PTFE or TFM4215.
2.The torque figures at 5 bar pressure are maximum values to be tested after the valves are placed for 24 hours.
3.For actuator sizing, a safety factor of minimum 30% is recommended.

TECHNICAL INFORMATION

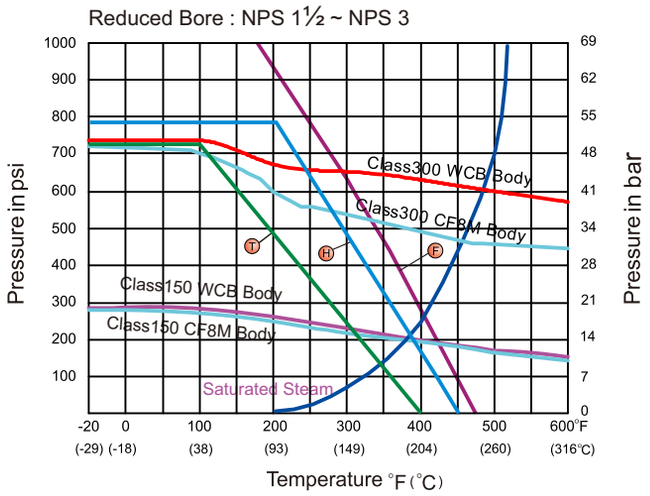
PRESSURE - TEMPERATURE DATA

The pressure-temperature data of ball valves is determined not only by valve shell materials but also by sealing materials used for ball seats, gland packings and flange gaskets.

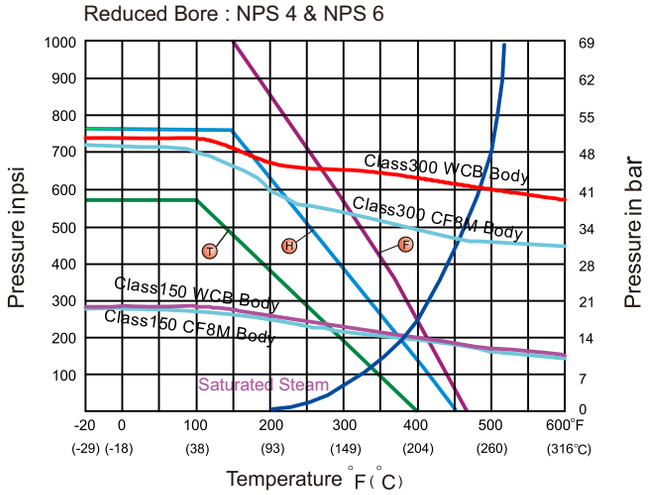
Reduced Bore : NPS ½ ~ NPS 1¼



Reduced Bore : NPS 1½ ~ NPS 3



Reduced Bore : NPS 4 & NPS 6



Seat Materials : Ⓣ PTFE Ⓗ TFM1600 Ⓕ TFM4215

Body Ratings: Shown above are for ASTM A351 Gr.CF8M and A216 Gr.WCB For ratings of other valve shell materials, please refer to the last edition of ASME B16.34.

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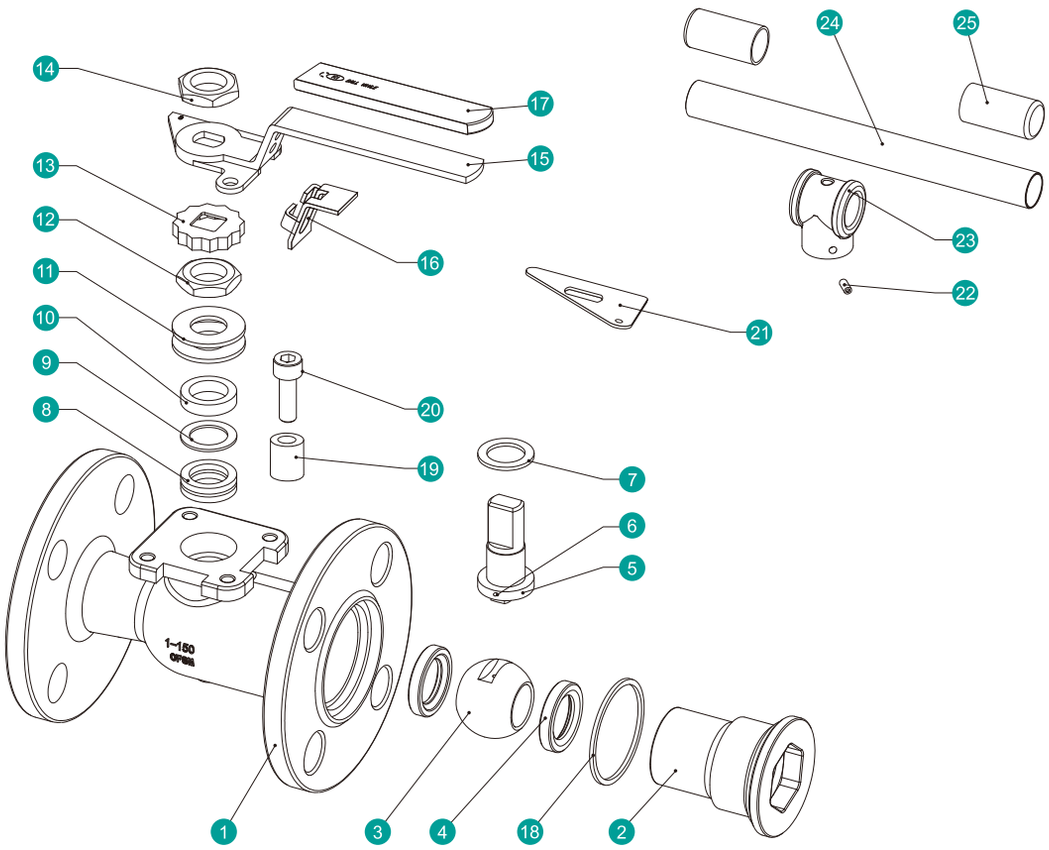

MATERIAL OF CONSTRUCTION

NO.	PART NAME	MATERIALS		
1	Body	A351-CF8M	A351-CF8	A216-WCB
2	End Cap	A351-CF8M	A351-CF8	A216-WCB
3	Ball	A351-CF8M	A351-CF8	
4	Ball Seat	TFM1600 / PTFE / TFM4215		
5	Stem	316	304	
6	Anti-Static	316	304	
7	Thrust Washer	PTFE / TFM1600		
8	Packing	PTFE/GRAPHITE*		
9	Bushing	50%SS+50%PTFE / 304*		
10	Gland	316		
11	Belleville Washer	301		
12	Stem Nut	A194-8		
13	Stop-lock-Cap	304		
14	Handle Nut (NPS½ ~ NPS2½)	A194-8		
15	Handle (NPS½ ~ NPS2½)	304		
16	Lock Device (NPS½ ~ NPS2½)	304		
17	Handle Sleeve(NPS½~NPS2½)	VINYL PLASTIC		
18	Body Gasket	PTFE / GRAPHITE*		
19	Washer	304		
20	Stop Bolt	A2-70		
21	Triangle Stopper (NPS3 ~ NPS6)	304		
22	Set Screwed (NPS3 ~ NPS6)	A2-70		
23	Handle Adapter (NPS3 ~ NPS6)	A351-CF8		
24	Pipe Handle (NPS3 ~ NPS6)	A53+PLATED Zn		
25	Handle Sleeve (NPS3 ~ NPS6)	VINYL PLASTIC		

*Materials for KV-M1FF/KV-M2FF Series (Fire Safe Models)

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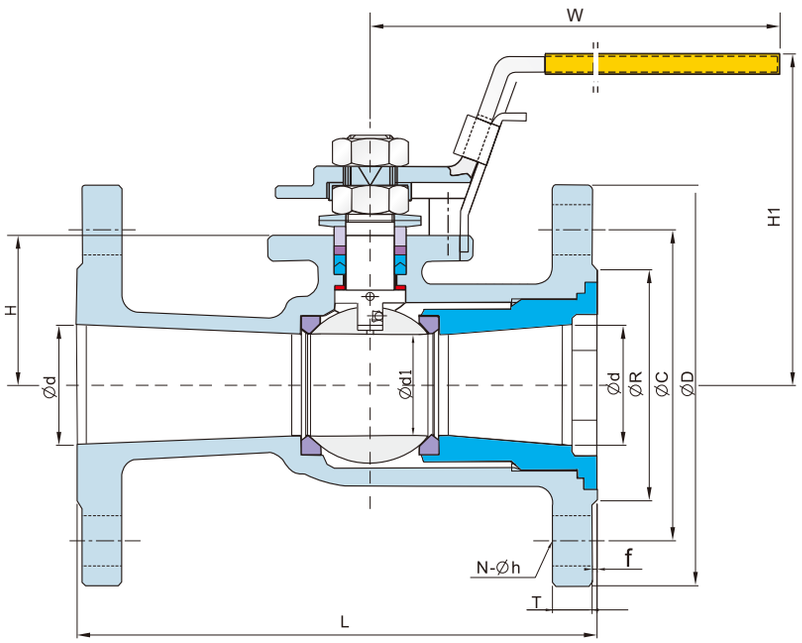
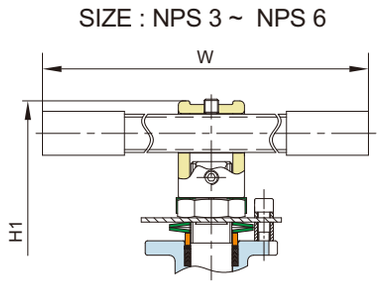
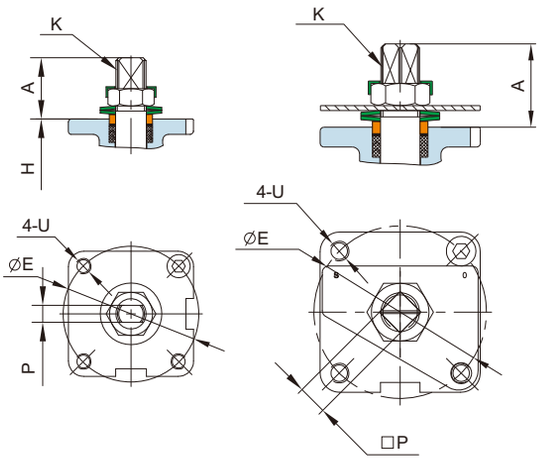


SIZE : NPS½ ~ NPS 2 ½



SIZE : NPS 3 ~ NPS 6



SIZE : NPS½ ~ NPS 4

SIZE : NPS 6

DIMENSION TABLE

ASME Class 150 DIMENSION TABLE KV-M1F/KV-M1FF

Unit : mm

NPS	d	d1	L	R	D	C	f	T	N	h	H	H1	W	P	K	A	U	E	ISO 5211
½	12.5	10.0	108	35	90	60.3	2	8.0	4	16.0	23.0	74	136	6.3	3/8-24UNF	21.0	M5	42	F04
¾	19.0	12.5	117	43	100	69.9	2	8.9	4	16.0	23.0	74	136	6.3	3/8-24UNF	21.0	M5	42	F04
1	25.0	17.5	127	51	110	79.4	2	9.6	4	16.0	33.5	88	170	9.0	9/16-18UNF	21.5	M6	50	F05
1¼	32.0	25.0	140	63.5	115	88.9	2	11.2	4	16.0	41.5	96	170	9.0	9/16-18UNF	21.5	M6	50	F05
1½	38.0	32.0	165	73	125	98.4	2	12.7	4	16.0	47.5	105	200	9.6	5/8-18UNF	32.0	M8	70	F07
2	50.0	38.0	178	92	150	120.7	2	14.3	4	19.0	56.5	114	200	9.6	5/8-18UNF	32.0	M8	70	F07
2½	62.0	50.0	190	105	180	139.7	2	15.9	4	19.0	66.5	133	250	16.0	7/8-14UNF	42.5	M10	102	F10
3	76.0	60.3	203	127	190	152.4	2	17.5	4	19.0	75.5	158	300	16.0	7/8-14UNF	42.5	M10	102	F10
4	98.0	76.0	229	157	230	190.5	2	22.3	8	19.0	96.0	191	400	18.0	1-1/8-12UNF	55.0	M10	102	F10
6	146.0	100.0	267	216	280	241.3	2	23.9	8	22.3	133.0	236	600	27.0	1-3/8-12UNF	56.0	M12	125	F12

ASME Class 150 DIMENSION TABLE KV-M1F/KV-M1FF

Unit : inch

NPS	d	d1	L	R	D	C	f	T	N	h	H	H1	W	P	K	A	U	E	ISO 5211
½	0.49	0.40	4.25	1.38	3.50	2.38	0.06	0.31	4	5/8	0.91	2.91	5.35	0.248	3/8-24UNF	0.83	M5	1.42	F04
¾	0.75	0.49	0.62	1.69	3.88	2.75	0.06	0.34	4	5/8	0.91	2.91	5.35	0.248	3/8-24UNF	0.83	M5	1.42	F04
1	0.98	0.69	5.00	2.01	4.25	3.12	0.06	0.38	4	5/8	1.32	3.44	6.75	0.354	9/16-18UNF	0.85	M6	1.65	F05
1¼	1.26	0.99	5.50	2.50	4.62	3.50	0.06	0.44	4	5/8	1.63	3.76	6.75	0.354	9/16-18UNF	0.85	M6	1.65	F05
1½	1.50	1.26	6.50	2.88	5.00	3.88	0.06	0.50	4	5/8	1.87	4.13	7.95	0.378	5/8-18UNF	1.26	M8	2.76	F07
2	1.97	1.50	7.00	3.62	6.00	4.75	0.06	0.56	4	3/4	2.22	4.49	7.95	0.378	5/8-18UNF	1.26	M8	2.76	F07
2½	2.44	1.97	7.50	4.12	7.00	5.50	0.06	0.62	4	3/4	2.62	5.22	9.92	0.630	7/8-14UNF	1.67	M10	4.02	F10
3	2.99	2.38	8.00	5.00	7.50	6.00	0.06	0.69	4	3/4	2.97	6.20	11.90	0.630	7/8-14UNF	1.67	M10	4.02	F10
4	3.86	2.99	9.00	6.19	9.00	7.50	0.06	0.88	8	3/4	3.78	7.52	15.90	0.709	1-1/8-12UNF	2.17	M10	4.02	F10
6	5.75	3.94	10.50	8.50	11.00	9.50	0.06	0.94	8	7/8	5.24	9.25	23.75	1.603	1-3/8-12UNF	2.20	M12	4.92	F12

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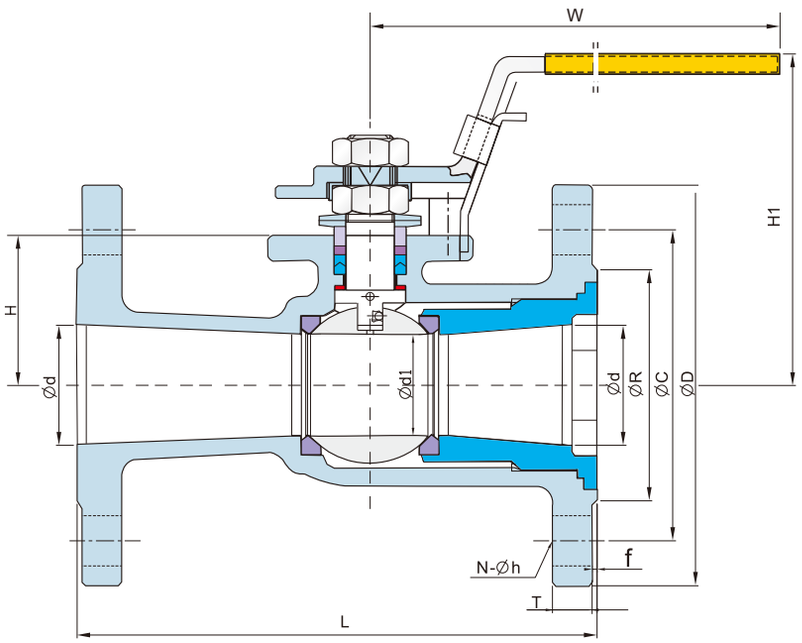
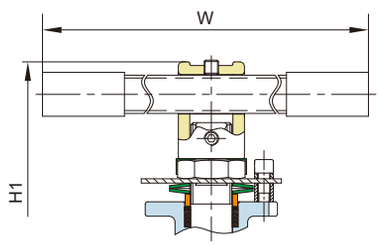
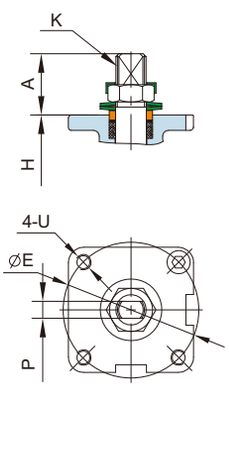


SIZE : NPS½ ~ NPS 2 ½

SIZE : NPS 3 ~ NPS 6



SIZE : NPS½ ~ NPS 4



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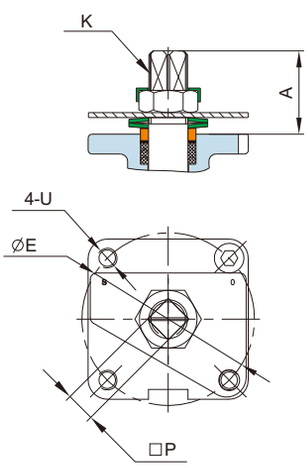

DIMENSION TABLE

ASME Class 300 DIMENSION TABLE KV-M2F/KV-M2FF

Unit : mm

NPS	d	d1	L	R	D	C	f	T	N	h	H	H1	W	P	K	A	U	E	ISO 5211
½	12.5	10.0	140	35	95	66.7	2	12.7	4	16.0	23.0	74	136	6.3	3/8-24UNF	21.0	M5	42	F04
¾	19.0	12.5	152	43	115	82.6	2	14.3	4	19.0	23.0	74	136	6.3	3/8-24UNF	21.0	M5	42	F04
1	25.0	17.5	165	51	125	88.9	2	15.9	4	19.0	33.5	88	170	9.0	9/16-18UNF	21.5	M6	50	F05
1¼	32.0	25.0	178	63.5	135	98.4	2	17.5	4	19.0	41.5	96	170	9.0	9/16-18UNF	21.5	M6	50	F05
1½	38.0	32.0	190	73	155	114.3	2	19.1	4	22.3	47.5	105	200	9.6	5/8-18UNF	32.0	M8	70	F07
2	50.0	38.0	216	92	165	127.0	2	20.7	8	19.0	56.5	114	200	9.6	5/8-18UNF	32.0	M8	70	F07
2½	62.0	50.0	241	105	190	149.2	2	23.9	8	22.3	66.5	133	250	16.0	7/8-14UNF	42.5	M10	102	F10
3	76.0	60.3	282	127	210	168.3	2	27.0	8	22.3	75.5	158	300	16.0	7/8-14UNF	42.5	M10	102	F10
4	98.0	76.0	305	157	255	200.0	2	30.2	8	22.3	96.0	191	400	18.0	1-1/8-12UNF	55.0	M10	102	F10
6	146.0	100.0	403	216	320	269.9	2	35.0	12	22.3	133.0	236	600	27.0	1-3/8-12UNF	56.0	M12	125	F12

ASME Class 300 DIMENSION TABLE KV-M2F/KV-M2FF

Unit : inch

NPS	d	d1	L	R	D	C	f	T	N	h	H	H1	W	P	K	A	U	E	ISO 5211
½	0.49	0.40	5.50	1.38	3.70	2.62	0.06	0.50	4	5/8	0.91	2.91	5.35	0.248	3/8-24UNF	0.83	M5	1.42	F04
¾	0.75	0.49	6.00	1.69	4.62	3.25	0.06	0.56	4	3/4	0.91	2.91	5.35	0.248	3/8-24UNF	0.83	M5	1.42	F04
1	0.98	0.69	6.50	2.01	4.88	3.50	0.06	0.62	4	3/4	1.32	3.44	6.75	0.354	9/16-18UNF	0.85	M6	1.65	F05
1¼	1.26	0.99	7.00	2.50	5.25	3.88	0.06	0.69	4	3/4	1.63	3.76	6.75	0.354	9/16-18UNF	0.85	M6	1.65	F05
1½	1.50	1.26	7.50	2.88	6.12	4.50	0.06	0.75	4	7/8	1.87	4.13	7.95	0.378	5/8-18UNF	1.26	M8	2.76	F07
2	1.97	1.50	8.50	3.62	6.50	5.00	0.06	0.81	8	3/4	2.22	4.49	7.95	0.378	5/8-18UNF	1.26	M8	2.76	F07
2½	2.44	1.97	9.50	4.12	7.50	5.88	0.06	0.94	8	7/8	2.62	5.22	9.92	0.630	7/8-14UNF	1.67	M10	4.02	F10
3	2.99	2.38	11.12	5.00	8.25	6.62	0.06	1.06	8	7/8	2.97	6.20	11.90	0.630	7/8-14UNF	1.67	M10	4.02	F10
4	3.86	2.99	12.00	6.19	10.00	7.88	0.06	1.19	8	7/8	3.78	7.52	15.90	0.709	1-1/8-12UNF	2.17	M10	4.02	F10
6	5.75	3.94	15.88	8.50	12.50	10.62	0.06	1.38	12	7/8	5.24	9.29	23.75	1.603	1-3/8-12UNF	2.20	M12	4.92	F12