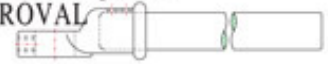


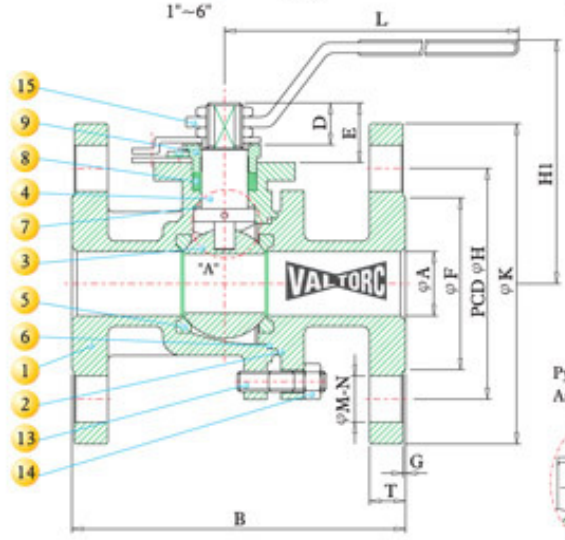
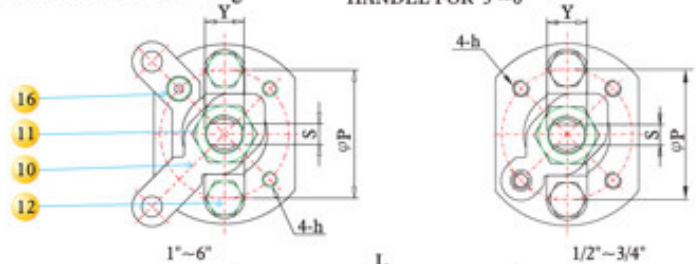
DESIGN FEATURES:

- Steam rating: 150 psi WSP
- ISO 5211 Actuator Mounting Pad
- Blow-out-proof stem design
- Anti-Static Device
- Adjustable Stem Packing
- Locking Device
- Body: ASTM A351 Gr. CF8M
 ASTM A216 Gr. WCB
- ME-PTFE SEAL KITS: REPLACES PTFE, RPTFE AND FPA
 LOW DEFORMATION UNDER LOAD
 LOW PERMEATION
- Temperature Rating: -45.5°C (-50°F) to 246°C (475°F)
- Long Cycle Life
- ANSI B16.5 B16.10 and B16.34 Full Compliance
- API 607 4th Edition FIRE SAFE APPROVAL
- TEST STANDARD: API 598
- Vacuum Service to 29" Hg

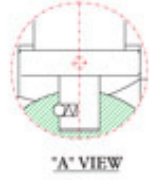
SERIES 410 2-PIECE FULL PORT BALL VALVE (FLANGED 150#)



HANDLE FOR 3"~6"



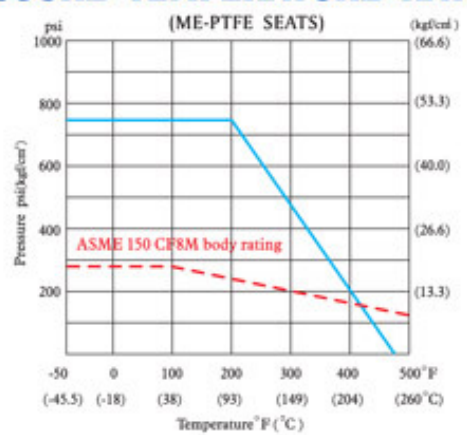
Pyramidal Stem & Anti-static Device



MATERIALS LIST

NO.	PART NAME	MATERIAL		QTY
		STAINLESS STEEL	CARBON STEEL	
1	BODY	ASTM A351 Gr.CF8M	ASTM A216 WCB	1
2	CAP	ASTM A351 Gr.CF8M	ASTM A216 WCB	1
3	BALL	ASTM A351 Gr.CF8M	ASTM A351 Gr.CF8M	1
4	STEM	ASTM A276 Gr.316	ASTM A276 Gr.316	1
5	SEAT	*ME-PTFE	*ME-PTFE	2
6	GASKET	GRAFOIL	GRAFOIL	1
7	THRUST WASHER	*ME-PTFE	*ME-PTFE	1
8	PACKING	GRAFOIL	GRAFOIL	1
9	GLAND	ASTM A351 Gr.CF8	ASTM A351 Gr.CF8	1
10	STOPPER	SS304	SS304	1
11	HANDLE NUT	SS304	SS304	2
12	GLAND BOLT	ASTM A193 Gr.B8	ASTM A193 Gr.B8	2
13	STUD BOLT	ASTM A193 Gr.B8	ASTM A193 Gr.B7M	4~10
14	SET NUT	ASTM A194 Gr.8	ASTM A194 Gr.2HM	4~10
15	HANDLE	SS304	SS304	1
16	LOCKING PLATE	SS304	SS304	1

* ME-PTFE IS Molecularly Enhanced PTFE PRESSURE TEMPERATURE RATINGS



DIMENSIONS

SIZE	A		B		D		E		F		G		H		K		T		M		N	P		S		L		H1		h	Y	Cv	Weight		
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm		inch	mm	inch	mm	inch	mm	inch	mm				Factor	Kg	lb
1/2"	15	0.59	15.0	4.25	107.9	0.56	14.1	0.98	25.0	1.38	35.0	0.06	1.6	2.38	60.4	3.50	88.9	0.44	11.1	0.62	15.7	4	1.65	42	0.32	8	5.18	131.5	2.91	73.8	M5*P0.8	M14*P2.0	26	1.81	3.99
3/4"	20	0.79	20.0	4.62	117.3	0.59	15.1	0.98	25.0	1.69	42.9	0.06	1.6	2.75	69.8	3.88	98.5	0.44	11.1	0.62	15.7	4	1.65	42	0.32	8	5.18	131.5	2.94	74.8	M5*P0.8	M14*P2.0	55	2.10	4.63
1"	25	0.98	25.0	5.00	127.0	0.62	15.8	1.24	31.5	2.00	50.8	0.06	1.6	3.12	79.2	4.25	107.9	0.44	11.1	0.62	15.7	4	1.97	50	0.39	10	6.42	163.0	3.44	87.4	M6*P1.0	M16*P2.0	110	3.00	6.61
1 1/4"	32	1.26	32.0	5.50	139.7	0.62	15.8	1.24	31.5	2.50	63.5	0.06	1.6	3.50	88.9	4.62	117.3	0.50	12.7	0.62	15.7	4	1.97	50	0.39	10	6.42	163.0	3.63	92.2	M6*P1.0	M16*P2.0	180	4.50	9.91
1 1/2"	40	1.50	38.0	6.50	165.1	0.86	21.8	1.67	42.3	2.88	73.1	0.06	1.6	3.88	98.5	5.00	127.0	0.56	14.2	0.62	15.7	4	2.76	70	0.39	10	9.13	232.0	4.76	121.0	M8*P1.25	M16*P2.0	270	6.20	13.66
2"	50	1.97	50.0	7.00	177.8	0.86	21.8	1.67	42.3	3.62	91.9	0.06	1.6	4.75	120.6	6.00	152.4	0.62	15.7	0.75	19.0	4	2.76	70	0.39	10	9.13	232.0	5.08	129.0	M8*P1.25	M16*P2.0	500	9.00	19.82
2 1/2"	65	2.56	65.0	7.50	190.5	0.86	21.8	1.67	42.3	4.12	104.6	0.06	1.6	5.50	139.7	7.00	177.8	0.69	17.5	0.75	19.0	4	2.76	70	0.55	14	9.13	232.0	5.55	141.0	M8*P1.25	M22*P2.5	800	13.00	28.63
3"	80	3.15	80.0	8.00	203.2	1.10	28.0	2.21	56.3	5.00	127.0	0.06	1.6	21.49	546.0	7.50	190.5	0.75	19.0	0.75	19.0	4	4.02	102	0.55	14	12.87	327.0	6.52	165.7	M10*P1.5	M22*P2.5	1150	21.00	46.26
4"	100	3.94	100.0	9.00	228.6	1.10	28.0	2.21	56.3	6.19	157.2	0.06	1.6	21.49	546.0	9.00	228.6	0.94	23.8	0.75	19.0	8	4.02	102	0.55	14	12.87	327.0	7.11	180.7	M10*P1.5	M22*P2.5	2120	32.00	70.48
6"	150	5.91	150.0	15.50	393.7	1.48	37.7	2.65	67.3	8.50	215.9	0.06	1.6	40.62	1032.0	11.00	279.4	1.00	25.4	0.88	22.3	8	4.92	125	0.79	20	42.20	1072.0	9.95	252.8	M12*P1.75	M30*P3.5	5100	75.00	165.20

VALTORC SERIES 410

CLASS 150/300/600

FIRE SAFE API 607 4th EDITION

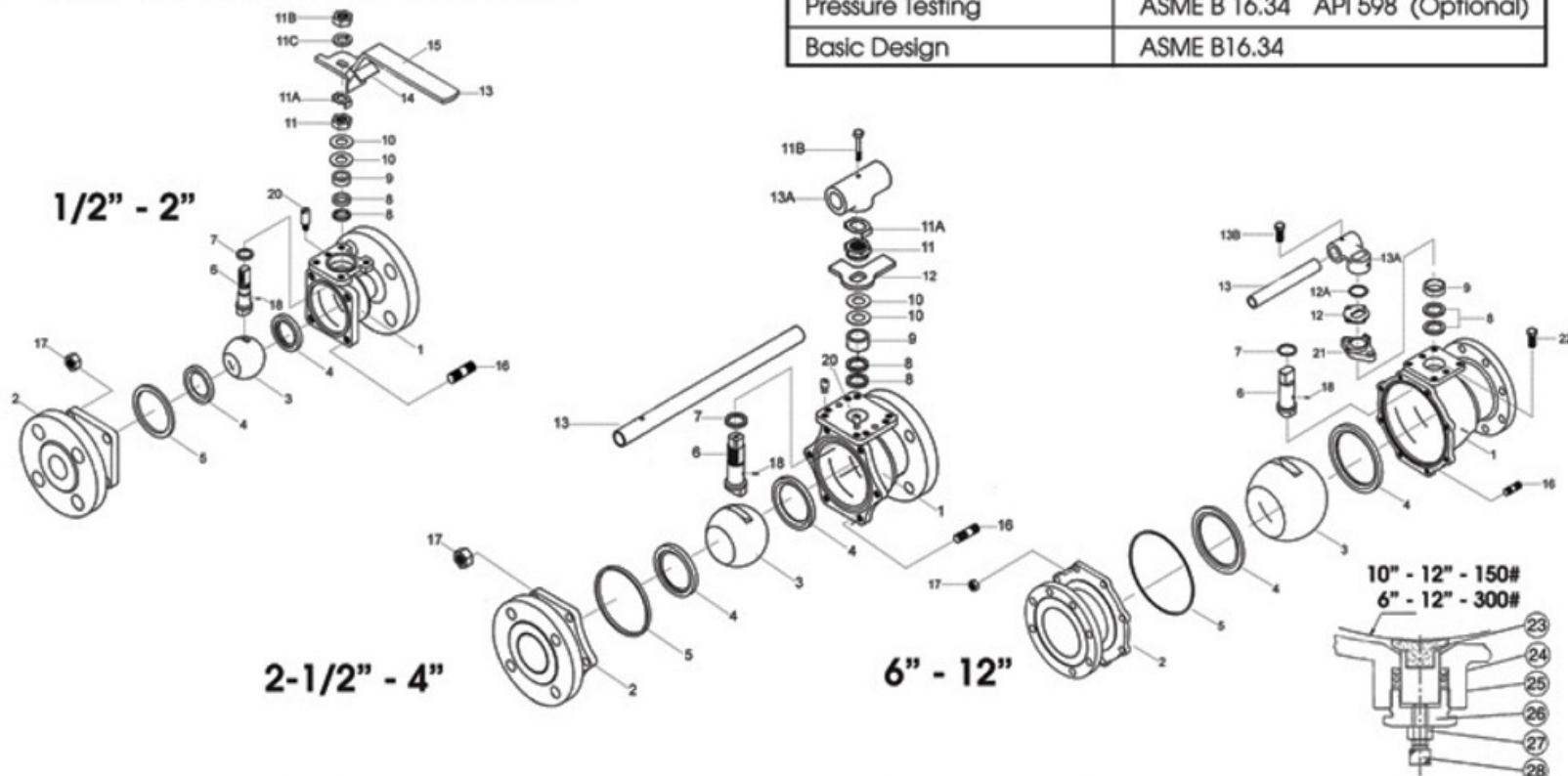
BLOW OUT PROOF STEM

ANTI-STATIC DEVICE

10" AND 12" SUPPORTED BALL 150#

6" THRU 12" SUPPORTED BALL 300#

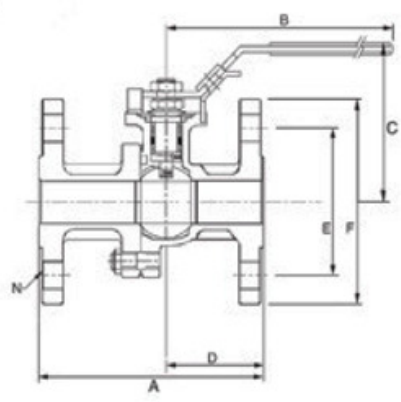
APPLICABLE STANDARDS	
Wall Thickness	ASME B 16.34
Face to Face Dimensions	ASME B 16.10
Flange Dimensions	ASME B 16.5
NACE	MR-01-75
Fire Safe	API 607 4th Edition
Pressure Testing	ASME B 16.34 API 598 (Optional)
Basic Design	ASME B16.34



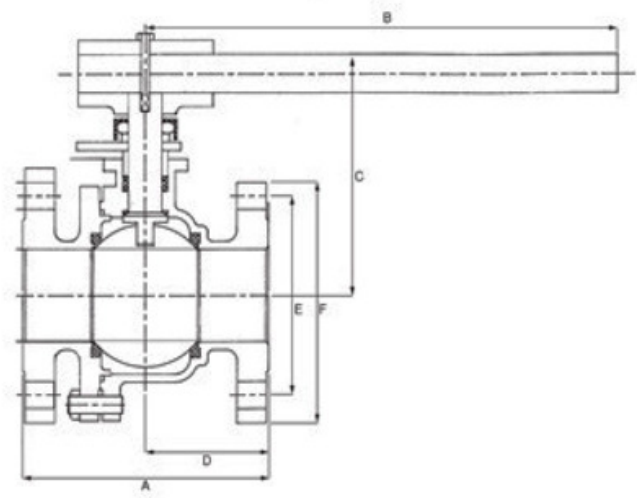
PART NO.	PART	QTY.	MATERIAL
1	Body	1	316 Stainless Steel Alloy 20 Carbon Steel Hastelloy C Monel
2	End Connector	1	316 Stainless Steel Alloy 20 Carbon Steel Hastelloy C Monel
3	Ball	1	316 Stainless Steel Alloy 20 Hastelloy C Monel
4	Seat	2	RTFE / TFE / TFM
5	Body Seal	1	Flexible Graphite
6	Stem	1	316 Stainless Steel Alloy 20 Hastelloy C Monel 17-4PH Standard in 600# Option in 150# & 300#
7	Thrust Bearing	2	Reinforced TFE
8	Stem Packing	2	Flexible Graphite
9	Gland Packing	1	304 Stainless Steel
10	Belleville Washer (1/2"-4")	2/4	304 Stainless Steel
11	Packing Nut (1/2"-4")	1	304 Stainless Steel
11A	Lock Tab	1	Stainless Steel
11B	Handle Nut	1	304 Stainless Steel
11C	Lock Washer	1	304 Stainless Steel (1/2"-2")
12	Stopper	1	304 Stainless Steel
13	Handle	1	304 Stainless Steel (1/2"-2") Galvanized Steel (2-1/2"-4") Ductile Iron (6"-8")
13A	Wrench Block	1	304 Stainless Steel (2-1/2"-4") Ductile Iron (6"-8")
13B	Handle Nut	1	304 Stainless Steel

PART NO.	PART	QTY.	MATERIAL
14	Locking Device (1/2"-2")	1	304 Stainless Steel
15	Sleeve	1	Vinyl
16	Body Stud	SEE* N	A193 ASTM A193, Gr. B8M (Stainless Steel) A193 ASTM A193, Gr. B7 (Carbon Steel)
17	Nut	SEE* N	A194 ASTM A194, Gr. 8 (Stainless Steel) A194 ASTM A194, Gr. 2H (Carbon Steel)
18	Anti Static Device	2	316 Stainless Steel
20	Stop Pin (1/2"-2") (2-1/2"-4")	1 2	304 Stainless Steel 304 Stainless Steel
21	Gland Flange 6" - 12"	1	316 Stainless Steel Carbon Steel
22	Gland Bolts (6"-12")	2	304 Stainless Steel
23	Supporter Seat (10"-12") 150# (6"-12") 300#	1	Reinforced TFE
24	Packing (10"-12") 150# (6"-12") 300#	3	Flexible Graphite
25	Supporter (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel
26	Bushing (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel
27	Bushing Nut (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel
28	Adjust Screw (10"-12") 150# (6"-12") 300#	1	304 Stainless Steel

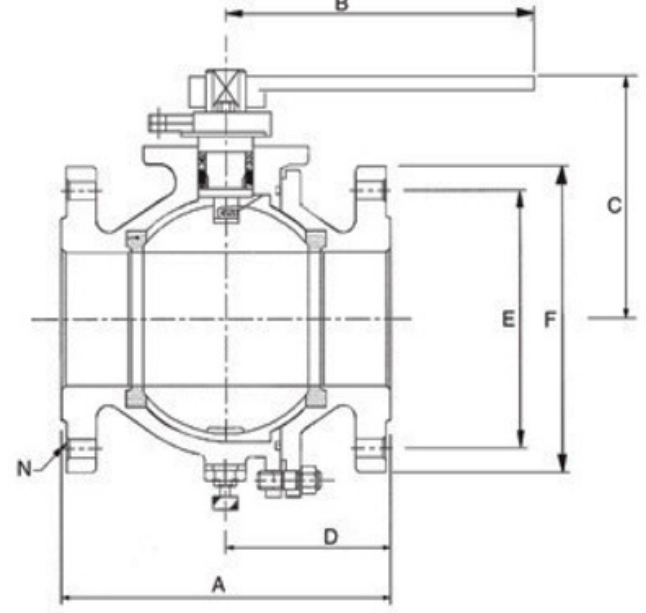
1/2" - 2"



2-1/2" - 4"



6" - 12"



VALTORC SERIES 410

SIZE	A			B			C			D			E			F			N			G		
CLASS	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600
1/2"	4.25	5.50	6.50	6.50	6.50	4.98	2.60	2.60	3.75	1.80	2.44	3.25	2.38	2.62	2.62	3.50	3.75	3.75	4	4	4	1.39	1.39	1.39
3/4"	4.62	6.00	7.50	6.50	6.50	4.98	2.91	2.92	3.68	2.00	2.72	3.40	2.75	3.25	3.25	3.85	4.62	4.62	4	4	4	1.39	1.39	1.39
1"	5.00	6.50	8.50	7.87	7.87	5.77	3.45	3.43	3.80	2.12	2.92	4.25	3.13	3.50	3.50	4.25	6.12	4.88	4	4	4	1.39	1.39	1.39
1-1/2"	6.50	7.50	9.50	9.85	9.85	7.54	4.20	4.15	4.63	2.76	3.26	4.75	3.56	4.50	4.50	5.00	6.15	6.12	4	4	4	1.94	1.94	1.95
2"	7.00	8.50	11.50	10.45	10.50	7.54	4.50	4.53	5.00	3.08	3.94	5.47	4.75	5.00	5.00	6.00	6.50	6.50	4	8	8	1.94	1.94	1.95
2-1/2"	7.50	9.50	-	13.75	13.75	-	6.70	6.70	-	3.09	4.05	-	5.50	5.86	-	7.00	7.50	-	4	8	-	2.84	2.84	-
3"	8.00	11.12	14.00	13.75	13.75	13.75	7.00	7.00	7.20	3.74	5.40	6.18	6.00	6.62	6.62	7.48	8.25	8.25	4	8	8	2.84	2.84	2.84
4"	9.00	12.00	17.00	13.75	13.75	13.75	7.70	7.70	7.96	4.46	5.93	8.64	7.50	7.88	8.50	9.01	10.00	10.74	8	8	8	2.84	2.84	2.84
6"	15.50	15.87	-	38.97	38.97	-	11.22	11.22	-	7.61	7.60	-	9.50	10.63	-	10.98	12.50	-	8	12	-	3.48	3.48	-
8"	18.00	19.75	-	38.97	38.97	-	11.57	12.71	-	8.34	9.33	-	11.75	13.00	-	13.50	15.00	-	8	12	-	3.48	3.48	-
10"	21.00	22.37	-	**	**	-	13.70	15.28	-	10.47	11.18	-	14.25	15.25	-	15.98	17.50	-	12	16	-	3.90	3.48	-
12"	24.00	25.51	-	**	**	-	13.50	15.08	-	12.00	12.80	-	17.00	17.75	-	19.01	20.50	-	12	16	-	3.90	3.90	-

SIZE	H			I			J			K			W			PORT			WEIGHT		
CLASS	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600	150	300	600
1/2"	3/8-24 UNF		1/2- 20 UNF	0.22	0.295	0.28	0.28	0.49	0.63	0.63	0.74	M5	M5	M6	0.59	0.59	0.59	4	5	6	
3/4"	3/8-24 UNF		1/2-20 UNF	0.22	0.295	0.28	0.28	0.49	0.63	0.63	0.79	M5	M5	M6	0.78	0.78	0.78	6	7	8	
1"	7/16-20 UNF		9/16-18 UNF	0.30	0.393	0.30	0.30	0.61	0.90	0.90	0.83	M6	M6	M6	1.00	1.00	1.00	8	10	11.5	
1-1/2"	9/16-18 UNF		3/4-16 UNF	0.35	0.472	0.42	0.42	0.84	1.18	1.18	1.22	M8	M8	M8	1.50	1.50	1.50	15	19	22	
2"	9/16-18 UNF		3/4-16 UNF	0.35	0.472	0.42	0.42	0.84	1.18	1.18	1.22	M8	M8	M8	2.00	2.00	2.00	20	33	38	
2-1/2"	1-14 UNS		-	0.55	-	0.55	0.55	-	1.83	1.83	-	M10	M10	-	2.55	2.55	-	36	50	-	
3"	1-14 UNS		1-20 UNF	0.745	0.745	0.66	0.66	0.69	1.83	1.83	1.87	M10	M10	M10	3.00	3.00	3.00	45	68	78	
4"	1-14 UNS		1-14 UNS	0.745	0.745	0.66	0.66	0.69	1.83	1.83	1.93	M10	M10	M10	4.00	4.00	4.00	75	96	146	
6"	1.72		-	1.03	-	1.60	2.15	-	3.35	3.35	-	M12	M12	-	6.00	6.00	-	135	230	-	
8"	1.72		-	1.03	-	2.13	1.60	-	3.86	3.86	-	M12	M12	-	7.88	7.88	-	290	430	-	
10"	1.96		-	1.38	-	2.15	2.17	-	3.74	3.91	-	M16	M16	-	9.84	9.84	-	540	810	-	
12"	1.96		-	1.38	-	2.15	2.17	-	3.74	3.82	-	M16	M16	-	11.81	11.81	-	660	902	-	