

SPECIFICATIONS

FIGURE 221A

CARBON STEEL BALL VALVES



2-PC FULL PORT 2000 CWP

FEATURES

- 2000 PSI CWP* non-shock
- Working Steam Pressure (WSP)
 - 150 PSI - Fig. 221A
 - 250 PSI - Fig. 221AC
- Threaded NPT ends
- Full port
- Blowout-proof stem
- Adjustable packing
- Anti-static design
- Investment cast body
- TFM (Super TFE) seats
- Stainless steel handle
- Locking lever
- Tapped hole mounting pad
- Vented ball
- Manufactured silicone-free
- Replacement locking handle kits available (1/4"-3")
- Optional stem extension kit (uses existing valve handle) (1/4"-2")
- Optional oval handle kit (1/4"-1-1/4")

Figure 221AC



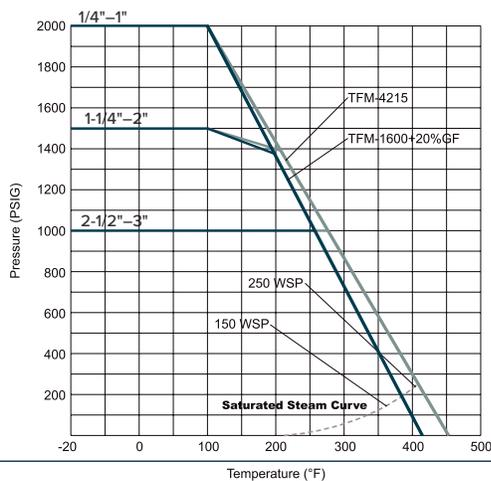
Figure 221A

PRODUCT SPECIFICATIONS

Standards

- Design: MSS SP-110
- End connections: ASME B1.20.1
- Seat/Shell test: MSS SP-110
- Corrosion resistance: NACE MR0103 and MR0175

* 1/4"-1" - 2000 PSI CWP
 1-1/4"-2" - 1500 PSI CWP
 2-1/2"-3" - 1000 PSI CWP



ACCESSORIES/OPTIONS



Replacement Locking Handle Kits (1/4"-3")

Stem Extension Kits (1/4"-2")

Oval Handle Kits (1/4"-1-1/4")

FIGURE NUMBER MATRIX

FNW 221A		
SEAT/SEAL CODE	SIZE CODE (IN.)	
Standard Temp = Blank (150 WSP)	1/4 = B	1-1/4 = H
	3/8 = C	1-1/2 = J
	1/2 = D	2 = K
High Temp = C (250 WSP)	3/4 = F	2-1/2 = L
	1 = G	3 = M

SPECIFICATIONS

FIGURE 221A

CARBON STEEL BALL VALVES



2-PC FULL PORT 2000 CWP

KIT CODES

FNW 220A		
KIT TYPE	KIT SIZE (IN.)	
Locking Handle = LHK	1/4-3/4 = BF	1-1/2-2 = JK
Stem Extension = SEK	1-1-1/4 = GH	2-1/2 = LM
Oval Handle = OH		

Note: The Figure 221A uses the same accessories as the 220A.

TORQUE (IN-LBS)

Size /ΔP (in.)	150 psig	300 psig	700 psig	1000 psig	1500 psig	2000 psig
	10 Bar	20 Bar	50 Bar	63 Bar	100 Bar	140 Bar
1/4, 3/8	62	62	62	62	62	62
1/2	62	62	62	62	62	71
3/4	71	71	71	71	71	80
1	115	133	133	133	133	142
1-1/4	150	177	195	221	230	-
1-1/2	221	257	274	301	328	-
2	292	372	407	434	487	-
2-1/2	522	566	620	681	-	-
3	832	929	1035	1159	-	-

Note: 30% safety factor is recommended when sizing actuator.

REFERENCE CHART

Size (in.)	Dimensions (in.)											
	ØD	L	H1	H2	H	W	S	M1	M3	M2	M (UNC)	B
1/4	0.42	2.17	1.34	0.40	2.52	3.74	0.314	0.50	-	1.12	10-24	1.06
3/8	0.50	2.17	1.34	0.40	2.52	3.74	0.314	0.50	-	1.12	10-24	1.06
1/2	0.59	2.55	1.34	0.40	2.52	4.92	0.314	0.50	-	1.12	10-24	1.06
3/4	0.79	3.03	1.52	0.43	2.64	4.92	0.314	0.88	-	1.38	10-24	1.26
1	0.98	3.46	1.46	0.42	3.27	5.51	0.314	0.88	-	1.38	10-24	1.61
1-1/4	1.26	4.01	2.09	0.83	3.50	5.51	0.314	1.00	-	1.50	1/4-20	1.97
1-1/2	1.50	4.33	2.44	1.12	3.93	7.87	0.472	1.00	-	1.50	1/4-20	2.20
2	1.97	4.92	2.36	1.09	4.25	7.87	0.472	1.00	-	1.50	1/4-20	2.76
2-1/2	2.50	6.45	2.24	0.93	5.91	9.84	0.472	1.18	1.38	2.76	1/4-20	3.27
3	2.99	7.12	2.12	0.93	6.34	9.84	0.472	1.28	1.28	2.76	1/4-20	4.02

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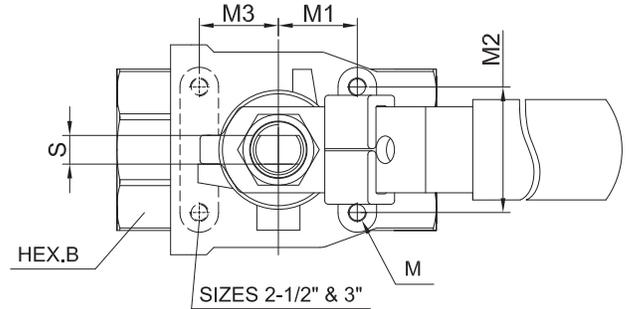
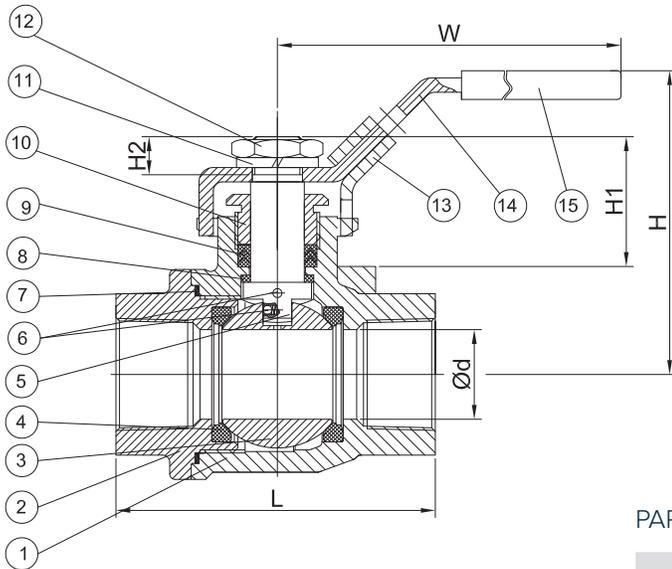
FIGURE 221A

CARBON STEEL BALL VALVES



2-PC FULL PORT 2000 CWP

PARTS DIAGRAM



CV & WEIGHTS

Size (in.)	CV	Wt (lbs)
1/4	16	1.15
3/8	16	1.15
1/2	30	1.15
3/4	55	1.72
1	96	1.90
1-1/4	170	3.53
1-1/2	270	6.00
2	470	9.17
2-1/2	780	15.43
3	1150	19.18

PART MATERIALS & QUANTITY

Ref #	Description	Material		Qty
		Figure 221A	Figure 221AC	
1	Body	ASTM A351 Gr. CF8M Stainless		1
2	End Cap	ASTM A351 Gr. CF8M Stainless		1
3	Ball	316SS Stainless		1
4	Seat	TFM1600+20% GF	TFM4215	2
5	Stem	316SS Stainless		1
6	Anti-Static Device	316SS Stainless		2
7	Body Gasket	PTFE	PTFE+20% CF	1
8	Thrust Washer	TFM4215		1
9	V-Ring Packing	PTFE	TFM1600	1 set
10	Gland Nut	304SS Stainless		1
11	Handle Washer	304SS Stainless		1
12	Handle Nut	304SS Stainless		1
13	Locking Pad	304SS Stainless		1
14	Handle	304SS Stainless		1
15	Handle Cover	Vinyl Plastic		1