

# FIGURE 311A CARBON STEEL BALL VALVES



## 3 PC FULL PORT 1000 CWP

### FEATURES

- 1000 PSI CWP non-shock
- 150 PSI WSP
- End connections
  - Threaded
  - Socket weld
- Full port
- Blowout-proof stem
- Adjustable packing
- Investment cast body
- Stainless steel handle
- Locking lever
- RTFE seats
- Vented ball
- Manufactured silicone-free
- Replacement locking handle kits available
- Optional stem extension kit (uses existing valve handle) (1/4"–2")
- Optional oval handle kit (1/4"–2")



### ACCESSORIES



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



Stem Extension Kits (1/4"–2")

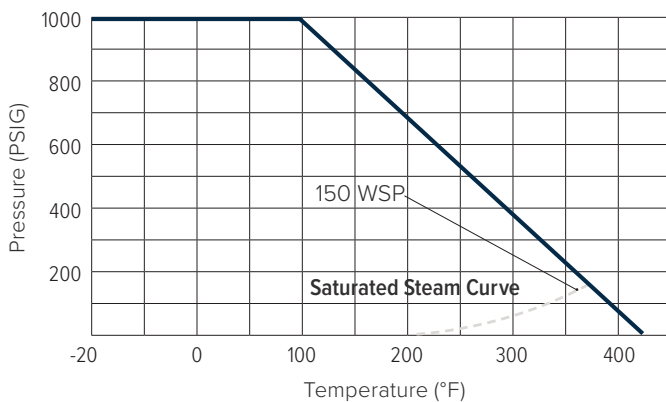


Oval Handle Kits (1/4"–2")

### PRODUCT SPECIFICATIONS

#### Standards

- Design: MSS SP-110
- End Connections:
  - NPT - ASME B1.20.1
  - SW - ASME B16.1
- Corrosion Resistance: NACE MR0103 and MR0175



### TORQUE (IN-LBS)

Size /ΔP	150 psig	300 psig	1000 psig
	10 Bar	20 Bar	63 Bar
1/4, 3/8	57	57	57
1/2	57	57	57
3/4	69	69	69
1	114	126	126
1-1/4	150	173	218
1-1/2	218	254	299
2	334	368	437
2-1/2	517	564	679
3	828	932	1162

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

### FIGURE NUMBER MATRIX

FNW 311A		
End Code	Size Code	
Blank = Threaded NPT	1/4" = B	1" = G
SW = Socket Weld	3/8" = C	1-1/4" = H
	1/2" = D	1-1/2" = J
	3/4" = F	2" = K

Note: For 4" valves, use FNW figure number 311AM.

### HANDLE KIT CODES (ORDER SEPARATELY)

FNW 310A	
Kit Type	Size Code
Locking Handle = LHK	1/4"–1/2" = BD
Stem Extension = SEK	3/4" = F
Oval Handle = OH	1"–1-1/4" = GH
	1-1/2"–2" = JK
	2-1/2"–3" = LM

Note: The figure 311A uses the same accessories as the 310A.

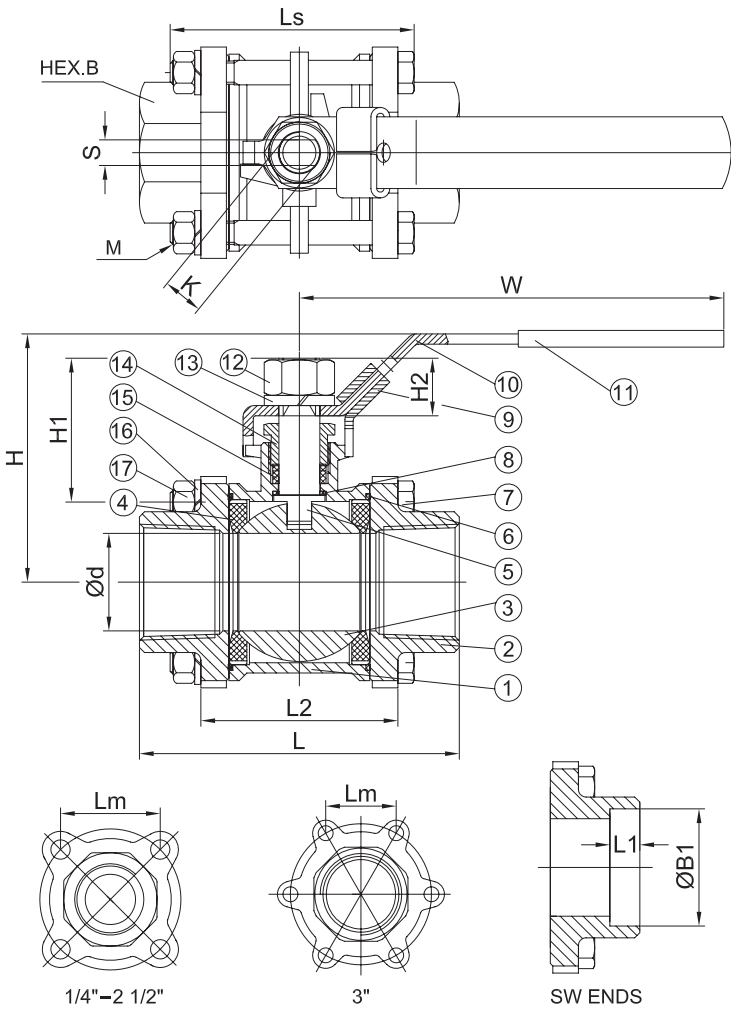
### REPAIR KITS (ORDER SEPARATELY)

FNW 310ARK	
Size Code	
1/4"–3/8" = BC	1-1/2" = J
1/2" = D	2" = K
3/4" = F	2-1/2" = L
1" = G	3" = M
1-1/4" = H	

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### STANDARD MATERIALS

Ref. No.	Description	Material	Qty
1	Body	ASTM A216 Gr. WCB Carbon Steel	1
2	End Cap	ASTM A216 Gr. WCB Carbon Steel	2
3	Ball	316SS Stainless	1
4	Seat	RTFE	2
5	Stem	316SS Stainless	1
6	Body Gasket	PTFE	2
7	Bolt Body	1/4"-2 1/2" 3"	4 6
8	Thrust Washer	PTFE	1
9	Locking Device	304SS Stainless	1
10	Handle	304SS Stainless	1
11	Handle Sleeve	Vinyl Plastic	1
12	Stem Nut	ASTM A194-8 Stainless	1
13	Stem Washer	304SS Stainless	1
14	Gland Nut	304SS Stainless	1
15	V-Ring Packing	PTFE	1 Set
16	Bolt Washer	1/4"-2" 2-1/2" 3"	4 8 12
17	Bolt Nut	1/4"-2" 2-1/2" 3"	4 8 12

### DIMENSIONS (INCHES)

SIZE	Ød	L	Lm	H1	H2	H	W	S	K (UNC)	Ls	L2	M (UNC)	B	L1	ØB1
1/4	0.42	2.57	1.14	1.20	0.43	2.26	3.94	0.197	5/16-18	1.98	1.46	1/4-20	0.93	0.39	0.56
3/8	0.47	2.57	1.14	1.20	0.43	2.26	3.94	0.197	5/16-18	1.98	1.46	1/4-20	0.93	0.39	0.69
1/2	0.59	2.74	1.21	1.11	0.38	2.26	3.94	0.197	5/16-18	2.13	1.63	1/4-20	1.10	0.39	0.86
3/4	0.79	3.15	1.52	1.30	0.49	2.50	5.08	0.256	3/8-16	2.44	1.82	5/16-18	1.36	0.51	1.07
1	0.98	3.54	1.76	1.61	0.62	2.97	6.14	0.314	7/16-14	2.79	2.10	5/16-18	1.65	0.51	1.34
1-1/4	1.26	4.33	2.13	1.61	0.55	3.19	6.14	0.314	7/16-14	3.37	2.68	3/8-16	2.05	0.63	1.69
1-1/2	1.50	4.72	2.42	2.12	0.89	3.70	7.19	0.394	5/8-11	3.81	3.05	3/8-16	2.30	0.63	1.93
2	1.97	5.51	2.95	2.19	0.89	4.11	7.19	0.394	5/8-11	4.36	3.59	3/8-16	2.81	0.67	2.42
2-1/2	2.50	7.28	3.62	2.69	0.93	5.16	9.92	0.472	3/4-10	5.91	4.36	9/16-12	3.41	0.67	2.91
3	2.99	8.07	2.93	2.75	0.93	5.47	9.92	0.472	3/4-10	6.50	4.93	9/16-12	3.98	0.67	3.54

### CV & WEIGHT

Size	Cv	Wt (lbs)	
		NPT	SW
1/2	30	1.12	1.10
3/4	55	1.81	1.76
1	96	2.69	2.60
1-1/4	170	4.28	4.19
1-1/2	270	5.73	5.60
2	470	9.04	8.95
2-1/2	780	18.25	18.08
3	1150	25.57	25.88