FIGURE 311AM
CARBON STEEL BALL VALVES

FNW

## 3-PC FULL PORT 1000 CWP W/ISO MOUNTING PAD

FEATURES
- 1000 PSI CWP non-shock
- 150 PSI WSP
- Threaded NPT ends (Socket weld on demand, contact FNW for price and availability)
- Full port
- Blowout-proof stem
- Live-loaded packing
- Anti-static design
- Investment cast body
- RTFE seats
- 4" with handle standard (lock-out style)
- Direct mounting pad
- Vacuum rated to 26.967"Hg (75 Torr)*
- Vented ball
- Manufactured silicone-free
- Optional locking handle kits (1/4"–4")

PRODUCT SPECIFICATIONS

Standards
- Design: MSS SP-110
- End connections: ASME B1.20.1
- Mounting pad: ISO 5211
- Seat/Shell test: MSS SP-11
- Corrosion resistance: NACE MR0103 and MR0175
- Fugitive emissions: ISO 15848-1 and TA-Luft

* Vacuum measurements are often made in inches of mercury below atmospheric pressure. The values calculated here assume standard atmospheric pressure of 29.92 inches of mercury.

Standard 4"

Fig. 311AM

ACCESSORIES/OPTIONS

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

4" Includes Locking Handle
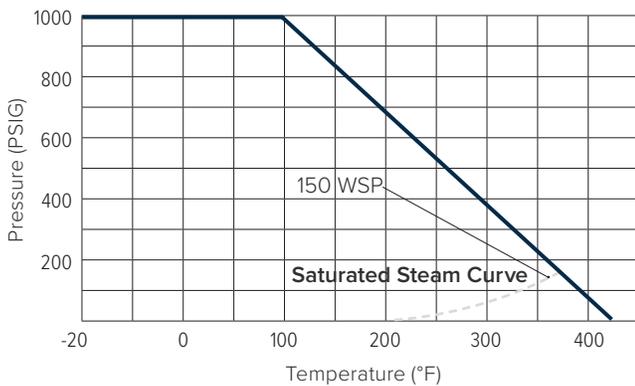
FIGURE NUMBER MATRIX

FNW 311AM		
SIZE CODE		
1/4 = B	1 = G	2-1/2 = L
3/8 = C	1-1/4 = H	3 = M
1/2 = D	1-1/2 = J	4 = P
3/4 = F	2 = K	

KIT CODES

FNW 310AM		
KIT TYPE	SIZE (IN.) CODE	
Locking Handle = LHK	1/4–3/4 = BF	2-1/2–3 = LM
	1–1/1/4 = GH	4 = P
	2-1/2–3 = LM	

Note: The figure 311AM uses the same handle kit as the 310AM

Temperature/Pressure Chart:

Pressure (PSIG) vs Temperature (°F)
- 1000 PSIG flat to 100°F
- 150 WSP
- Saturated Steam Curve

FNW 311AM Siz

FIGURE 311AM
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TORQUE (IN-LBS)

Size /ΔP	150 psig 10 Bar	300 psig 20 Bar	1000 psig 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
4	1265	1404	1703

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

CV & WEIGHTS

Size (.in)	CV	Wt (lbs)
1/4	16	1.01
3/8	23	1.03
1/2	30	1.05
3/4	55	1.73
1	96	2.33
1-1/4	170	4.30
1-1/2	270	5.21
2	470	9.09
2-1/2	780	17.31
3	1150	24.36

REFERENCE CHART

Size (in.)	Dimensions (in.)																
	ØD	L	Lm	H	P	A	ØE1	ØE2	U1	U2	K (UNF)	Ls	LS	M (UNC)	B	L1	ØB1
1/4	0.42	2.95	1.30	1.65	0.35	0.35	1.42	1.65	0.24	0.24	7/16-20	2.23	1.71	1/4-20	1.10	0.39	0.56
3/8	0.50	2.95	1.30	1.65	0.35	0.35	1.42	1.65	0.24	0.24	7/16-20	2.23	1.71	1/4-20	1.10	0.39	0.70
1/2	0.59	2.95	1.30	1.65	0.35	0.35	1.42	1.65	0.24	0.24	7/16-20	2.23	1.71	1/4-20	1.10	0.39	0.86
3/4	0.79	3.15	1.52	1.91	0.35	0.35	1.42	1.97	0.24	0.28	7/16-20	2.44	1.82	5/16-18	1.36	0.51	1.07
1	0.98	3.54	1.76	2.30	0.43	0.43	1.65	1.97	0.24	0.28	9/16-18	2.79	2.10	5/16-18	1.65	0.51	1.34
1-1/4	1.26	4.33	2.13	2.48	0.43	0.43	1.65	2.76	0.24	0.35	9/16-18	3.37	2.68	3/8-16	2.05	0.63	1.69
1-1/2	1.50	4.72	2.42	2.81	0.55	0.55	1.97	2.76	0.28	0.35	3/4-16	3.81	3.05	3/8-16	2.30	0.63	1.93
2	1.97	5.51	2.95	3.08	0.55	0.55	1.97	2.76	0.28	0.35	3/4-16	4.36	3.59	3/8-16	2.81	0.67	2.42
2-1/2	2.50	7.28	3.62	3.94	0.67	0.67	2.76	4.02	0.35	0.43	7/8-14	5.91	4.36	9/16-12	3.41	0.67	2.91
3	2.99	8.07	2.93	4.27	0.67	0.67	2.76	4.02	0.35	0.43	7/8-14	6.50	4.93	9/16-12	3.98	0.67	3.54
4	3.95	9.45	3.76	5.51	0.87	0.87	–	4.02	–	0.43	1-1/8-12	7.87	6.26	5/8-11	5.20	0.79	4.53

We reserve the right to modify or improve the designs or specifications of our products at any time without notice.
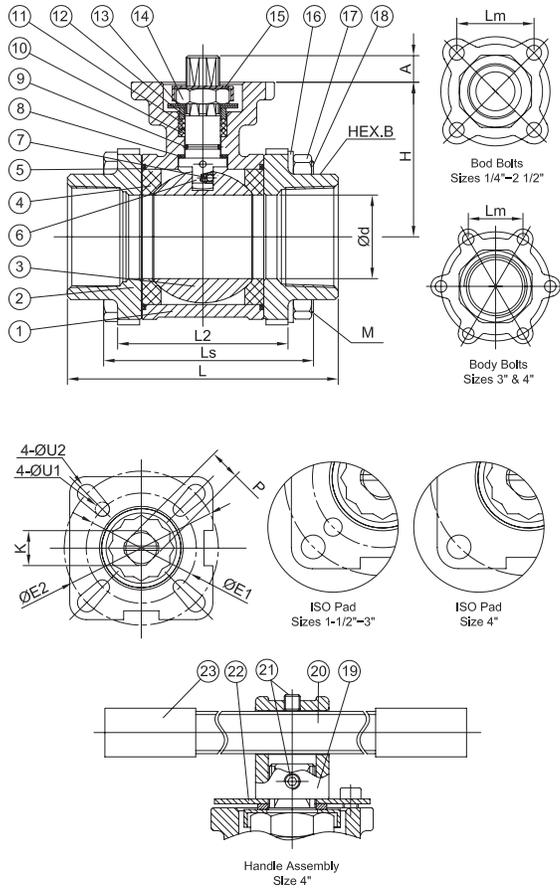
FIGURE 311AM
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PARTS DIAGRAM

PART MATERIALS & QUANTITY

Ref #	Description (in.)		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	Body Gasket		PTFE	2
6	Stem		316SS Stainless	1
7	Anti-Static Device		316SS Stainless	2
8	Thrust Washer		PTFE	1
9	O-Ring		FKM	1
10	V-Ring Packing		PTFE	1 set
11	Bushing		50% Stainless+50% PTFE	1
12	Gland		316SS Stainless	1
13	Belleville Washer		301SS Stainless	2
14	Stem Nut		ASTM A194-8 Stainless	1
15	Stop-Lock-Cap		304SS Stainless	1
16	Bolt Washer	1/4–2 2-1/2 3–4	304SS Stainless	4 8 12
17	Bolt Washer	1/4–2 2-1/2 3–4	ASTM A194-8 Stainless	4 8 12
18	Body Bolt	1/4–3 4	ASTM A193-B8 Stainless	4 6
19	Handle Adapter 4		ASTM A351 Gr. CF8 Stainless	1
20	Pipe Hanlde 4		ASTM A53 Steel+Zinc Plating	1
21	Set Screw 4		ASTM A193-B8 Stainless	1
22	Triangle Stopper 4		420SS Stainless	1
23	Handle Sleeve 4		Vinyl Plastic	1

REPAIR KITS

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SIZE CODE (IN.)

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