

FIGURE 220A STAINLESS STEEL BALL VALVES



2 PC FULL PORT 2000 CWP

FEATURES

- 2000 PSI CWP* non-shock
- Working Steam Pressure (WSP)
 - 150 PSI - Fig. 220A
 - 250 PSI - Fig. 220AC
- 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

Fig. 220AC

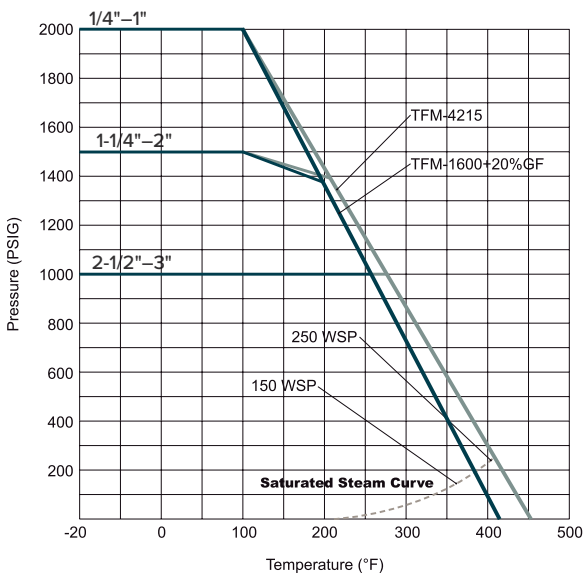


Fig. 220A

STANDARDS

- Design: MSS SP-110
- End Connection: ASME B1.20.1
- Seat/Shell Test: MSS SP-110
- Corrosion Resistance: NACE MRO103 and MRO175

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



TORQUE (IN-LBS)

| Size / ΔP | 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 | | |

For actuator sizing, a safety factor of minimum 30% is recommended.

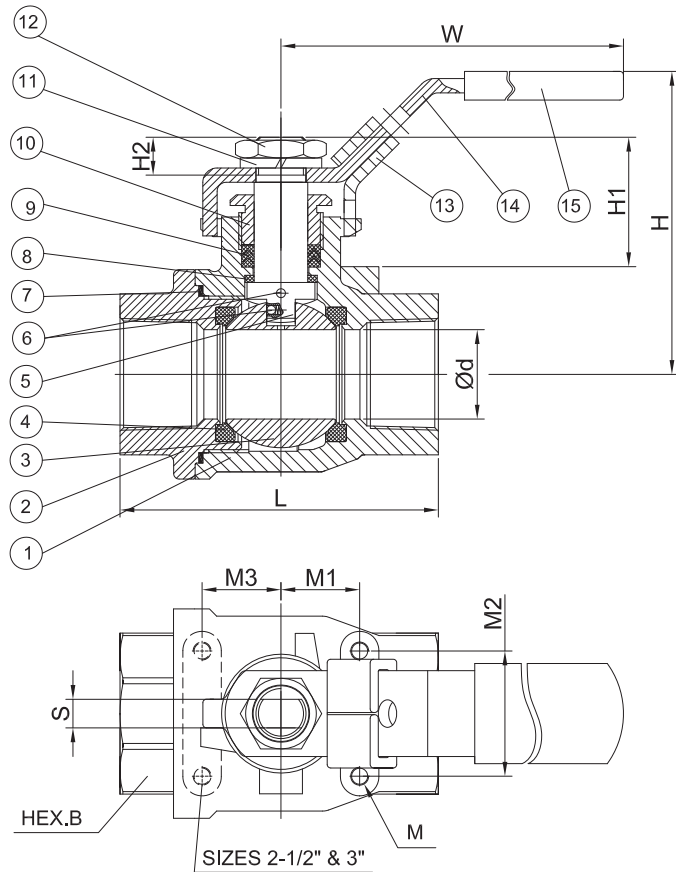
FIGURE NUMBER MATRIX

| FNW 220A | | |
|---------------------------------|-----------|------------|
| Seat/Seal Code | Size Code | |
| Blank = Standard Temp (150 WSP) | 1/4" = B | 1-1/4" = H |
| C = High Temp (250 WSP) | 3/8" = C | 1-1/2" = J |
| | 1/2" = D | 2" = K |
| | 3/4" = F | 2-1/2" = L |
| | 1" = F | 3" = M |

FIGURE 220A STAINLESS STEEL BALL VALVES



2 PC FULL PORT 2000 CWP



STANDARD MATERIALS

| Ref. No. | Description | Material | | Qty |
|----------|--------------------|------------------------------|--------------|-------|
| | | Figure 220A | Figure 220AC | |
| 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 |

DIMENSIONS (INCHES)

| SIZE | 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 |

CV & WEIGHT

| Size | Cv | Wt (lbs) |
|-------|-----|----------|
| 1/4 | 15 | 1.15 |
| 3/8 | 15 | 1.15 |
| 1/2 | 18 | 1.15 |
| 3/4 | 36 | 1.72 |
| 1 | 48 | 1.90 |
| 1-1/4 | 58 | 3.53 |
| 1-1/2 | 120 | 6.00 |
| 2 | 190 | 9.17 |
| 2-1/2 | 450 | 15.43 |
| 3 | 600 | 19.18 |