

## SPECIFICATIONS

# FIGURE 320A

## STAINLESS STEEL BALL VALVES



### 3-PC FULL PORT 2000 CWP

#### FEATURES

- 2000 PSI CWP\* non-shock
- Working Steam Pressure (WSP)
  - 150 PSI - Fig. 320A
  - 250 PSI - Fig. 320AC
- Full port
- Blowout-proof stem
- Live-loaded packing
- Anti-static design
- Investment cast body
- TFM (super TFE) seats
- End connections
  - Threaded
  - Socket weld
- Stainless steel handle
- Locking lever
- Tapped hole mounting pad
- Vacuum rated to 26.967"Hg (75 Torr)\*\*
- Vented ball
- Manufactured silicone-free
- Replacement locking handle
- Kits available (1/4"-2")
- Optional stem extension kit (uses existing valve handle) (1/4"-2")
- Optional oval handle kit (1/4"-1-1/4")



#### ACCESSORIES/OPTIONS



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

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

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

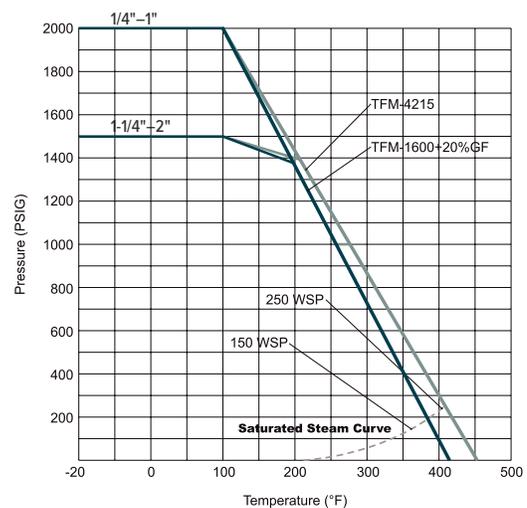
## PRODUCT SPECIFICATIONS

#### Standards

- Design: MSS SP-110
- End connections:
  - NPT - ASME B1.20.1
  - SW - ASME B16.11
- Seat/Shell test: MSS SP-110
- Corrosion resistance: NACE MRO103 and MRO175
- Fugitive emissions: ISO 15848-1

\* 1/4"-1" - 2000 PSI CWP  
1-1/4"-2" - 1500 PSI CWP

\*\* 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.



SPECIFICATIONS

# FIGURE 320A

## STAINLESS STEEL BALL VALVES



### 3-PC FULL PORT 2000 CWP

FIGURE NUMBER MATRIX

| FNW 320A   |  |  |  |
|--|--|--|--|
| SEAT/SEAT CODE   | END CODE                                 | SIZE CODE (IN.)                          |  |
| Standard Temp (150 WSP) = Blank<br>High Temp (250 WSP) = C | Threaded NPT = Blank<br>Socket Weld = SW | 1/4 = B<br>3/8 = C<br>1/2 = D<br>3/4 = F | 1 = G<br>1-1/4 = H<br>1-1/2 = J<br>2 = K |

KIT CODES

| FNW 320A             |                |
|----------------------|----------------|
| KIT TYPE             | KIT SIZE (IN.) |
| Locking Handle = LHK | 1/4-3/4 = BF   |
| Stem Extension = SEK | 1-1-1/4 = GH   |
| Oval Handle = OH     | 1-1/2-2 = JK   |

TORQUE (IN-LBS)

| Size / ΔP | 150 psig | 700 psig | 1500 psig | 3000 psig |
|-----------|----------|----------|-----------|-----------|
|           | 10 Bar   | 50 Bar   | 100 Bar   | 140 Bar   |
| 1/4, 3/8  | 62       | 62       | 62        | 62        |
| 1/2       | 62       | 62       | 62        | 71        |
| 3/4       | 71       | 71       | 71        | 80        |
| 1         | 115      | 133      | 133       | 142       |
| 1-1/4     | 150      | 195      | 230       | –         |
| 1-1/2     | 221      | 274      | 328       | –         |
| 2         | 292      | 407      | 487       | –         |

CV & WEIGHTS

| Size (in.) | CV  | Wt (lbs) |       |
|------------|-----|----------|-------|
|            |     | NPT      | SW    |
| 1/4        | 15  | 2.34     | 2.34  |
| 3/8        | 15  | 2.34     | 2.34  |
| 1/2        | 18  | 2.29     | 2.25  |
| 3/4        | 36  | 3.15     | 3.15  |
| 1          | 48  | 4.59     | 4.59  |
| 1-1/4      | 93  | 7.61     | 7.61  |
| 1-1/2      | 165 | 9.92     | 9.92  |
| 2          | 207 | 15.21    | 15.48 |

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

REFERENCE CHART

| Size (in.) | Dimensions (in.) |      |      |      |      |      |      |    |      |      |         |      |      |         |      |      |      |
|------------|------------------|------|------|------|------|------|------|----|------|------|---------|------|------|---------|------|------|------|
|            | ØD               | L    | H1   | H    | W    | ØE   | S    | U  | A    | J    | K (UNF) | Ls   | L2   | M (UNC) | B L1 | ØB1  | ØB1  |
| 1/4        | 0.42             | 2.76 | 1.18 | 2.99 | 5.31 | 1.65 | 0.25 | M5 | 0.68 | 0.41 | 3/8-24  | 2.13 | 1.61 | 1/4-20  | 0.93 | 0.43 | 0.55 |
| 3/8        | 0.50             | 2.76 | 1.18 | 2.99 | 5.31 | 1.65 | 0.25 | M5 | 0.68 | 0.41 | 3/8-24  | 2.13 | 1.61 | 1/4-20  | 0.93 | 0.43 | 0.69 |
| 1/2        | 0.59             | 2.95 | 1.42 | 3.27 | 5.31 | 1.65 | 0.25 | M5 | 0.80 | 0.46 | 3/8-24  | 2.44 | 1.83 | 5/16-18 | 1.10 | 0.43 | 0.86 |
| 3/4        | 0.79             | 3.15 | 1.56 | 3.27 | 5.31 | 1.65 | 0.25 | M5 | 0.80 | 0.46 | 3/8-24  | 2.74 | 2.05 | 3/8-16  | 1.34 | 0.51 | 1.07 |
| 1          | 0.98             | 3.54 | 1.79 | 3.86 | 6.69 | 1.97 | 0.35 | M6 | 0.92 | 0.49 | 9/16-18 | 3.18 | 2.36 | 3/8-16  | 1.81 | 0.51 | 1.34 |
| 1-1/4      | 1.25             | 4.33 | 1.97 | 4.06 | 6.69 | 1.97 | 0.35 | M6 | 0.92 | 0.49 | 9/16-18 | 3.86 | 2.76 | 1/2-13  | 2.17 | 0.51 | 1.68 |
| 1-1/2      | 1.50             | 4.72 | 2.36 | 4.33 | 7.87 | 2.76 | 0.38 | M8 | 1.18 | 0.59 | 5/8-18  | 4.12 | 3.24 | 1/2-13  | 2.24 | 0.51 | 1.91 |
| 2          | 1.95             | 5.51 | 2.68 | 4.69 | 7.87 | 2.76 | 0.38 | M8 | 1.18 | 0.59 | 5/8-18  | 4.90 | 3.68 | 5/8-11  | 2.87 | 0.63 | 2.41 |

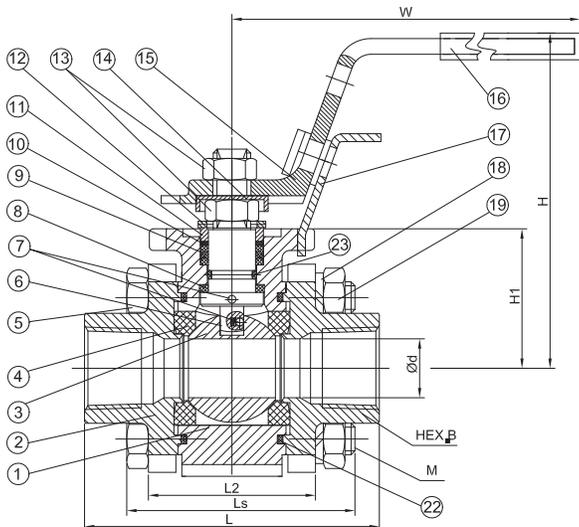
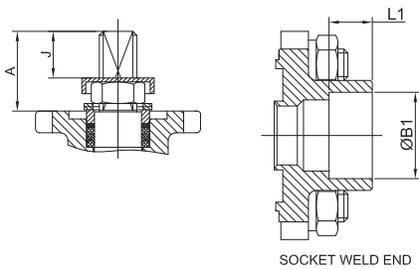
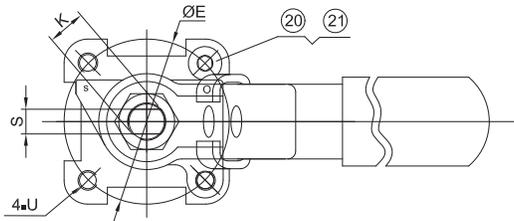
# FIGURE 320A

## STAINLESS STEEL BALL VALVES



### 3-PC FULL PORT 2000 CWP

#### PARTS DIAGRAM



#### REPAIR KITS

| FNW320ARK       |           |
|-----------------|-----------|
| SIZE CODE (IN.) |           |
| 1/4-3/8 = BC    | 1-1/4 = H |
| 1/2 = D         | 1-1/2 = J |
| 3/4 = F         | 2 = K     |
| 1 = G           |           |

#### PART MATERIALS & QUANTITY

| Ref # | Description        | Material                     |                              | Qty   |
|-------|--------------------|------------------------------|------------------------------|-------|
|       |                    | Figure 220A                  | Figure 220AC                 |       |
| 1     | Body               | ASTM A351 Gr. CF8M Stainless |                              | 1     |
| 2     | End Cap            | NPT                          | ASTM A351 Gr. CF8M Stainless | 2     |
|       |                    | SW                           | ASTM A351 Gr. CF3M Stainless |       |
| 3     | Ball               | 316SS Stainless              |                              | 1     |
| 4     | Seat               | TFM1600+20% GF               | TFM4215                      | 2     |
| 5     | Body Bolt          | 1/4-1-1/4                    | ASTM A193-B8 Stainless       | 4     |
|       |                    | 1-1/2-2                      |                              | 8     |
| 6     | Stem               | 316SS Stainless              |                              | 1     |
| 7     | Anti-Static Device | 316SS Stainless              |                              | 2     |
| 8     | Thrust Washer      | TFM4215                      |                              | 1     |
| 9     | V-Ring Packing     | PTFE                         | TFM1600                      | 1 set |
| 10    | Bushing            | 50% Stainless+50% PTFE       |                              | 1     |
| 11    | Gland              | 316SS Stainless              |                              | 1     |
| 12    | Belleville Washer  | 301SS Stainless              |                              | 2     |
| 13    | Stem Nut           | ASTM A194-8 Stainless        |                              | 2     |
| 14    | Stop-Lock-Cap      | 304SS Stainless              |                              | 1     |
| 15    | Handle             | 304SS Stainless              |                              | 1     |
| 16    | Handle Sleeve      | Vinyl Plastic                |                              | 1     |
| 17    | Lock Device        | 304SS Stainless              |                              | 1     |
| 18    | Body Washer        | 1/4-1-1/4                    | 304SS Stainless              | 4     |
|       |                    | 1-1/2-2                      |                              | 8     |
| 18    | Body Nut           | 1/4-1-1/4                    | ASTM A194-8 Stainless        | 4     |
| 20    | Stop Bolt          | ASTM A193-B8 Stainless       |                              | 1     |
| 21    | Stop Washer        | 304SS Stainless              |                              | 1     |
| 22    | Body Gasket        | PTFE                         | PTFE+20% CF                  | 2     |
| 23    | O-Ring             | FKM                          |                              | 1     |