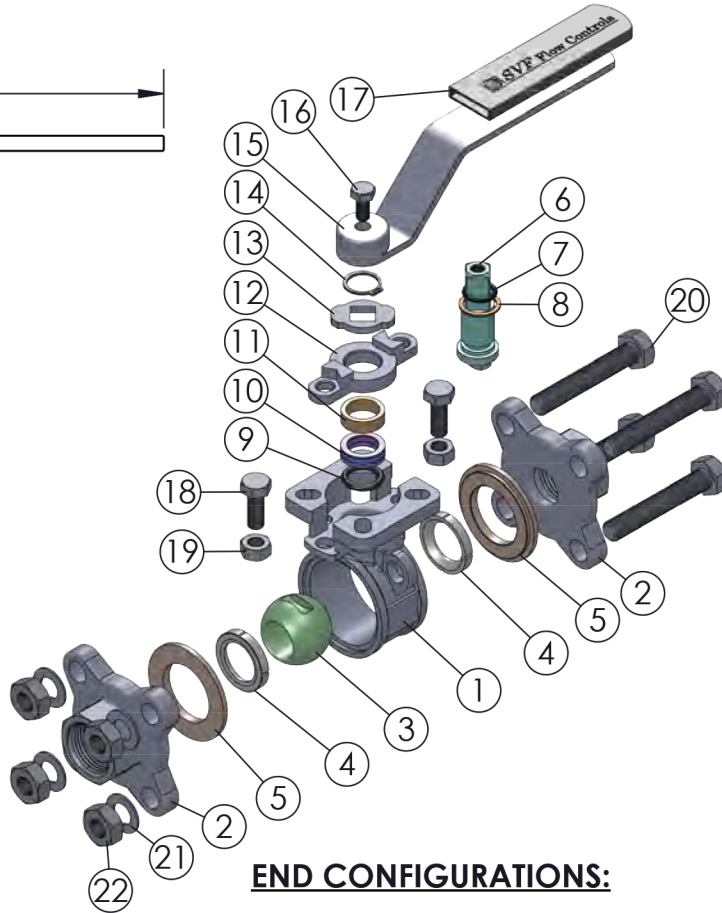
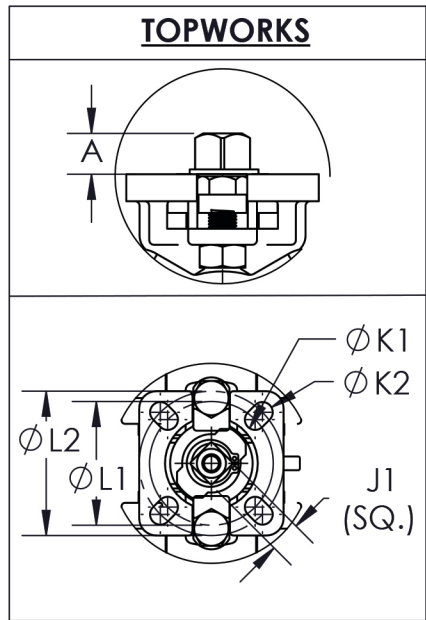
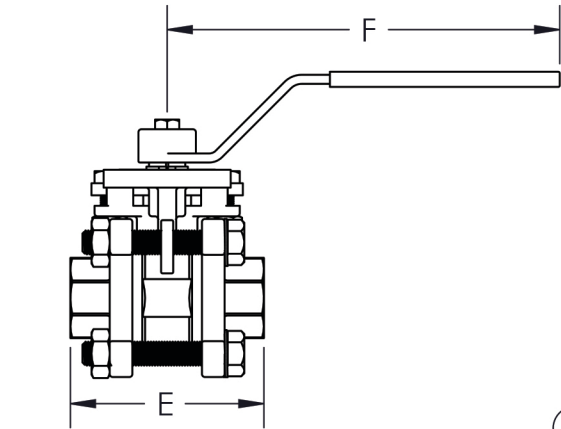
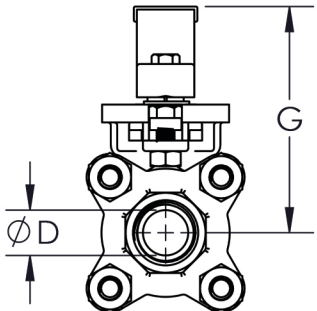
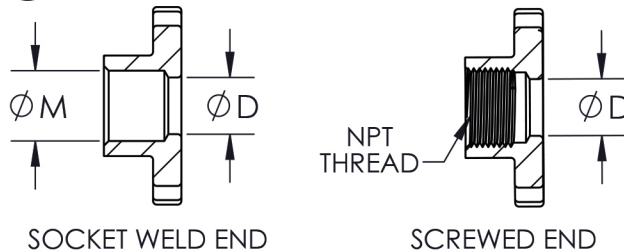


\*AT FULL DIFFERENTIAL PRESSURE FOR CLEAN FLUIDS WITH PTFE SEATS

| SIZE   | A         | øD         | E          | F           | G          | J1 (SQ.)  | øK1       | øK2       | øL1        | øL2        | øM         | NPT THREAD     | ISO 5211 | WEIGHT (lbs) | Cv  | TORQUE* (in-lbf) | BODY BOLT SIZE | BODY NUT SIZE |
|--------|-----------|------------|------------|-------------|------------|-----------|-----------|-----------|------------|------------|------------|----------------|----------|--------------|-----|------------------|----------------|---------------|
| 1/4"   | 0.35 (9)  | 0.47 (12)  | 2.48 (63)  | 4.92 (125)  | 2.91 (74)  | 0.35 (9)  | 0.24 (6)  | 0.24 (6)  | 1.42 (36)  | 1.65 (42)  | 0.55 (14)  | 1/4"-18NPT     | F03-F04  | 1.6          | 6   | 35               | 5/16" x 48     | 5/16"         |
| 3/8"   | 0.35 (9)  | 0.51 (13)  | 2.48 (63)  | 4.92 (125)  | 2.91 (74)  | 0.35 (9)  | 0.24 (6)  | 0.24 (6)  | 1.42 (36)  | 1.65 (42)  | 0.71 (18)  | 3/8"-18NPT     | F03-F04  | 1.6          | 7   | 35               | 5/16" x 48     | 5/16"         |
| 1/2"   | 0.35 (9)  | 0.59 (15)  | 2.48 (63)  | 4.92 (125)  | 2.91 (74)  | 0.35 (9)  | 0.24 (6)  | 0.24 (6)  | 1.42 (36)  | 1.65 (42)  | 0.87 (22)  | 1/2"-14NPT     | F03-F04  | 1.6          | 10  | 35               | 5/16" x 48     | 5/16"         |
| 3/4"   | 0.35 (9)  | 0.79 (20)  | 2.87 (73)  | 4.92 (125)  | 3.07 (78)  | 0.35 (9)  | 0.24 (6)  | 0.24 (6)  | 1.42 (36)  | 1.65 (42)  | 1.06 (27)  | 3/4"-14NPT     | F03-F04  | 1.8          | 25  | 44               | 5/16" x 53     | 5/16"         |
| 1"     | 0.43 (11) | 0.98 (25)  | 3.35 (85)  | 6.10 (155)  | 3.50 (89)  | 0.43 (11) | 0.24 (6)  | 0.28 (7)  | 1.65 (42)  | 1.97 (50)  | 1.34 (34)  | 1"-11.5NPT     | F04-F05  | 2.6          | 35  | 112              | 5/16" x 63     | 5/16"         |
| 1-1/4" | 0.43 (11) | 1.26 (32)  | 3.78 (96)  | 6.10 (155)  | 3.70 (94)  | 0.43 (11) | 0.24 (6)  | 0.28 (7)  | 1.65 (42)  | 1.97 (50)  | 1.69 (43)  | 1-1/4"-11.5NPT | F04-F05  | 4.0          | 46  | 174              | 3/8" x 75      | 3/8"          |
| 1-1/2" | 0.55 (14) | 1.50 (38)  | 4.49 (114) | 7.28 (185)  | 4.33 (110) | 0.55 (14) | 0.28 (7)  | 0.35 (9)  | 1.97 (50)  | 2.76 (70)  | 1.93 (49)  | 1-1/2"-11.5NPT | F05-F07  | 6.4          | 80  | 280              | 3/8" x 88      | 3/8"          |
| 2"     | 0.55 (14) | 1.97 (50)  | 5.28 (134) | 7.28 (185)  | 4.65 (118) | 0.55 (14) | 0.28 (7)  | 0.35 (9)  | 1.97 (50)  | 2.76 (70)  | 2.40 (61)  | 2"-11.5NPT     | F05-F07  | 8.6          | 110 | 323              | 3/8" x 102     | 3/8"          |
| 2-1/2" | 0.67 (17) | 2.56 (65)  | 7.08 (180) | 13.86 (352) | 6.33 (161) | 0.67 (17) | 0.35 (9)  | 0.43 (11) | 2.76 (70)  | 4.02 (102) | 3.03 (77)  | 2-1/2"-8NPT    | F07-F10  | 18.1         | 310 | 420              | 1/2" x 145     | 1/2"          |
| 3"     | 0.67 (17) | 3.15 (80)  | 7.87 (200) | 13.86 (352) | 6.69 (170) | 0.67 (17) | 0.35 (9)  | 0.43 (11) | 2.76 (70)  | 4.02 (102) | 3.54 (90)  | 3" NPT         | F07-F10  | 28.4         | 360 | 588              | 1/2" x 157     | 1/2"          |
| 4"     | 0.87 (22) | 3.97 (100) | 8.98 (228) | 15.63 (397) | 7.95 (202) | 0.87 (22) | 0.43 (11) | 0.51 (13) | 4.02 (102) | 4.92 (125) | 4.53 (115) | 4" NPT         | F10-F12  | 46.9         | 820 | 774              | 5/8" x 194     | 5/8"          |



**END CONFIGURATIONS:**



**PRODUCT INFORMATION:**

1. END CONNECTIONS AVAILABLE IN: SCREWED ENDS (FNPT) AND SOCKET WELD ENDS
2. ANTI-STATIC DEVICE
3. BALL IS VENTED ON THE STEM SLOT AREA
4. BLOW-OUT PROOF STEM
5. SOCKET WELD ENDS INCLUDE ADDITIONAL PTFE BODY SEALS
6. ADJUSTABLE STEM SEAL GLAND
7. COMPLETE VALVE AUTOMATION

**APPLICABLE STANDARDS:**

1. ASME B1 6.34: DESIGN
2. API 598: INSPECTION AND TESTING
3. ANSI B1.20.1: NPT
4. ISO 521 1: MOUNTING
5. CGA G-4.1: CLEANING FOR OXYGEN SERVICE
6. USP CLASS VI: CONFIRMATION OF COMPLIANCE (PTFE MATERIAL)

| ITEM NO. | DESCRIPTION        | MATERIALS           | QTY. |
|----------|--------------------|---------------------|------|
| 1        | BODY               | A351-CF8M           | 1    |
| 2        | END                | A351-CF8M           | 2    |
| 3        | BALL               | A351-CF8M           | 1    |
| 4        | SEAT               | PTFE                | 2    |
| 5        | BODY SEAL          | PTFE                | 2    |
| 6        | STEM               | A276-316            | 1    |
| 7        | STEM O-RING        | VITON               | 1    |
| 8        | STEM THRUST WASHER | TFM4215             | 1    |
| 9        | STEM SEAL          | VITON               | 1    |
| 10       | STEM PACKING       | PTFE                | 3    |
| 11       | GLAND FOLLOWER     | 304 STAINLESS STEEL | 1    |
| 12       | GLAND              | A351-CF8            | 1    |
| 13       | STOPPER            | 304 STAINLESS STEEL | 1    |
| 14       | SNAP RING          | 304 STAINLESS STEEL | 1    |
| 15       | LEVER HANDLE       | A351-CF8            | 1    |
| 16       | HANDLE BOLT        | 304 STAINLESS STEEL | 1    |
| 17       | HANDLE SLEEVE      | PLASTIC             | 1    |
| 18       | BOLT               | 304 STAINLESS STEEL | 2    |
| 19       | NUT                | 304 STAINLESS STEEL | 2    |
| 20       | BODY BOLT          | 304 STAINLESS STEEL | 4    |
| 21       | SPRING WASHER      | 304 STAINLESS STEEL | 4    |
| 22       | BODY NUT           | 304 STAINLESS STEEL | 4    |

|   |                    |
|---|--------------------|
| DRAWN BY<br>E.P.  | DATE<br>05/02/2017 |
| CHECKED BY<br>E.G.  | DATE<br>09/12/2018 |
| APPROVED BY<br>J.S.<br><small>(FOR ONLY PAPER APPROVAL)</small>   | DATE<br>09/12/2018 |
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|                           |   |
|---------------------------|---|
|                           | DESCRIPTION:  |
|                           | 1/4" - 4" E29B 3-PIECE DIRECT MOUNT BALL VALVE, FULL BORE |
| UNITS: INCH (MILLIMETERS) | DATE: 09/12/2018  |
|                           | REV: D  |