



Series M1-CS & SS

3-Piece Steel Ball Valve with "Live-Load" Stem Packing



FEATURES

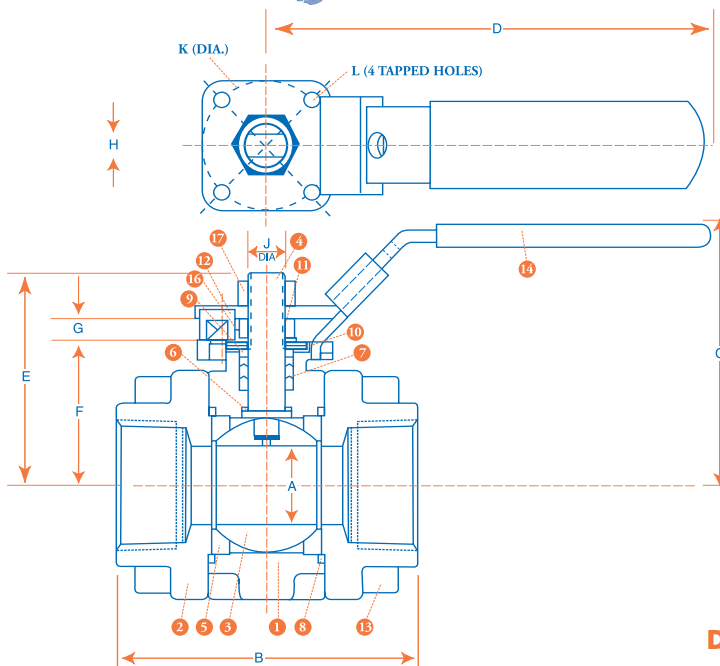
- 3-Piece, 4 Bolt Construction
- Standard Electrically Grounded Ball & Stem
- Live-Load PTFE Stem Packing
- NACE MR01-75 Compliant
- ISO 5211 4 Bolt Mounting
- Standard 316SS Ball & Stem
- Standard 304SS Latch Lock Handles
- 1/4"-4" Full Port
- Female NPT and Socket-Weld Ends Available
- 304SS Packing Clip Secures Packing Adjustment

RATINGS

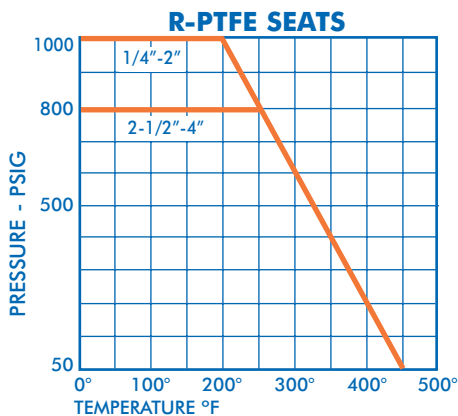
1/4"-2": 1000WOG
2-1/2"-4": 800WOG
All Sizes: 200 PSIG WSP

MATERIALS OF CONSTRUCTION

| PART | QTY. | DESCRIPTION | STANDARD MATERIAL |
|------|------|-------------------|----------------------------------|
| 1 | 1 | BODY | ASTM A351 GR CF8M OR A216 GR WCB |
| 2 | 2 | TAILPIECE | ASTM A351 GR CF3M OR A216 GR WCB |
| 3 | 1 | BALL | ASTM A276 GR 316 OR CF8M |
| 4 | 1 | STEM | ASTM A276 GR 316 OR CF8M |
| 5 | 2 | SEAT | R-TFM (R-PTFE) |
| 6 | 1 | THRUST WASHER | R-PTFE |
| 7 | 1 | PACKING SET | TFE |
| 8 | 2 | BODY SEAL | R-PTFE |
| 9 | 1 | GLAND | ASTM A276 GR 316 SS |
| 10 | 2 | BELLEVILLE WASHER | STAINLESS STEEL |
| 11 | 1 | PACKING NUT | ASTM A276 GR 304 SS |
| 12 | 1 | STOP PIN | ASTM A276 GR 304 SS |
| 13 | 8 | BODY BOLT & NUT | 304SS |
| 14 | 1 | HANDLE ASSY | 304SS |
| 16 | 1 | PACKING CLIP | 304SS |
| 17 | 1 | HANDLE NUT | 304SS |



DIMENSIONS, WEIGHTS, CV FACTORS & MAXIMUM OPERATING TORQUE



| SIZE | A (PORT) | B | C | D | E | F | G | H | J | K (DIA) | L | ISO PATTERN | WT. (LBS) | CV | Torque IN-LBS |
|-----------|-------------|------|------|-------|------|------|------|------|------|------------|-------------|----------------|--------------|------|------------------|
| 1/4"-3/8" | 0.43 | 2.49 | 2.36 | 4.17 | 1.84 | 1.14 | 0.35 | 0.20 | 0.31 | 1.42 | 1/4"-20UNC | F03 | 1.1 | 10 | 50 |
| 1/2" | 0.56 | 2.76 | 2.36 | 4.17 | 1.90 | 1.14 | 0.37 | 0.20 | 0.31 | 1.42 | 1/4"-20UNC | F03 | 1.1 | 16 | 75 |
| 3/4" | 0.81 | 3.03 | 2.83 | 5.04 | 2.37 | 1.34 | 0.48 | 0.20 | 0.44 | 1.65 | 1/4"-20UNC | F04 | 1.4 | 32 | 120 |
| 1" | 1.00 | 3.62 | 3.06 | 5.04 | 2.68 | 1.58 | 0.48 | 0.28 | 0.50 | 1.65 | 1/4"-20UNC | F04 | 2.1 | 62 | 180 |
| 1-1/4" | 1.25 | 4.13 | 3.40 | 7.83 | 3.13 | 1.79 | 0.57 | 0.31 | 0.62 | 1.97 | 1/4"-20UNC | F05 | 3.3 | 115 | 300 |
| 1-1/2" | 1.50 | 4.72 | 3.66 | 7.83 | 3.39 | 2.05 | 0.57 | 0.39 | 0.62 | 1.97 | 1/4"-20UNC | F05 | 4.3 | 140 | 400 |
| 2" | 2.00 | 5.43 | 4.61 | 7.83 | 3.71 | 2.41 | 0.53 | 0.39 | 0.62 | 1.97 | 1/4"-20UNC | F05 | 6.6 | 365 | 600 |
| 2-1/2" | 2.50 | 6.69 | 5.37 | 10.00 | 4.96 | 2.89 | 0.73 | 0.39 | 0.62 | 2.76 | 5/16"-18UNC | F07 | 10.8 | 450 | 1050 |
| 3" | 3.00 | 7.52 | 5.76 | 10.00 | 5.47 | 3.29 | 0.72 | 0.39 | 0.62 | 2.76 | 5/16"-18UNC | F07 | 33 | 1100 | 1350 |
| 4" | 4.00 | 8.54 | 6.88 | 11.93 | 6.82 | 4.21 | 0.91 | 0.47 | 0.62 | 4.02 | 3/8"-16UNC | F10 | 55 | 2200 | 2200 |

Quadrant[®]

VALVE & ACTUATOR, LLC

SERIES M1-CS & SS

REV.
05/07

NUMBERING SYSTEM ... HOW TO ORDER:

M1 F C S R Z SL TT 100

| SERIES | PORT SIZE | BODY & TAILPIECE MATERIAL | BALL/STEM MAT'L | SEAT MAT'L | SEAL MAT'L | HANDLE TYPE | ENDS | SIZE |
|--------|-----------|---|--|------------------------|--|--|---|--|
| M1 | F = FULL | C = A216 WCB CARBON STEEL S = A351 GR CR8M STAINLESS A = A351 GR CN7M ALLOY 20 | S = ASTM A276 GR 316 SS A = A351 GR CN7M ALLOY 20 | R = R-PTFE U = UHMW | Z = LIVE LOADED PTFE PACKING, R-PTFE THRUST WASHER, R-PTFE SEALS X = LIVE LOADED GRAPHITE PACKING, R-PTFE THRUST WASHER, GRAPHITE SEALS | SL = STAINLESS LATCH LOCK SO = STAINLESS OVAL LO = STAINLESS LOCKING OVAL PA = DOUBLE ACTING PNEUMATIC SA = SPRING RETURN PNEUMATIC XH = EXTENDED TOPWORKS | TT = FNPT WW = SOCKET WELD WT = SOCKET WELD x FNPT | 025 = 1/4" 038 = 3/8" 050 = 1/2" 075 = 3/4" 100 = 1" 125 = 1-1/4" 150 = 1-1/2" 200 = 2" 250 = 2-1/2" 300 = 3" 400 = 4" |



**2" M1-SS with Quadrant
C-Series Actuator**



**1" M1-SS with 304 SS
Locking Oval Handle**