

9000 Series

Two Piece Ball Valves

The Marwin **9000 Series** is constructed with a one piece body and threaded end cap which gives maximum structural strength while minimizing the number of potential leak paths through the valve.

- In sizes 1/2" through 2" standard port; 1/4" through 3" full port
- Available in carbon and stainless steel
- An unobstructed, straight through flow path minimizes pressure drop across the valve
- All sizes standard port and 1/2" through 1" and 3" full port can be readily automated with our full line of pneumatic and electric actuators. Consult factory for 1-1/4" through 2-1/2" full port automation.
- Ideally suited for pulp and paper, chemical and petrochemical and refining and petroleum applications
- Rugged one piece handle and stop provides for longer life and positive ball positioning



Ordering Schematic

| Series | Body Material | Trim Material | Port | Packing | Seat | End Connections | | Options |
|--------|---------------|---------------|------|---------|------|-----------------|---|---------|
| 99 | 3 | 3 | F | R | R | S | — | ACT |

| Valve Series | |
|--------------|---------------|
| 99 | Series Number |

| Body Material | |
|---------------|-----------------|
| 2 | Carbon Steel |
| 3 | Stainless Steel |

| Trim Material | |
|---------------|---------|
| 3 | 316 SST |

| Port Design | |
|-------------|---------------|
| F | Full Port |
| R | Standard Port |

| Packing | |
|---------|-------|
| R | RPTFE |

| Seat Rings | |
|------------|-------|
| R | RPTFE |

| End Connections | |
|-----------------|-----------------|
| S | Threaded (FNPT) |

| Options | |
|---------|---------------------|
| SR | Sprng Return Handle |
| ACT | Automated |



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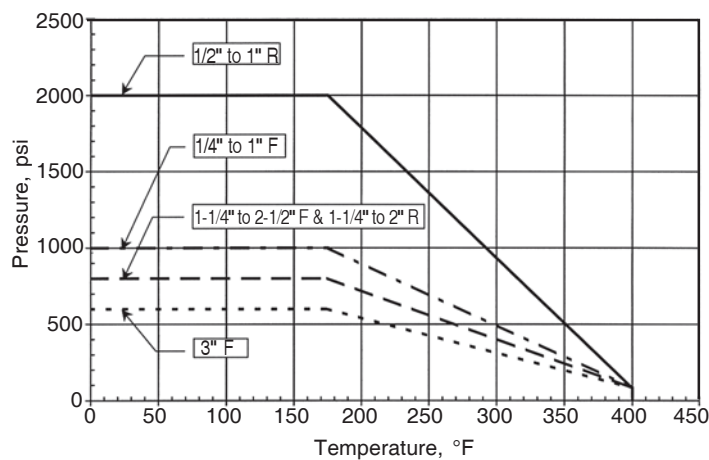
Material Specifications

| No. | Part | CS Body | SS Body |
|-----|---------------|------------------|------------------|
| 1 | Handle Grip | Vinyl | Vinyl |
| 2 | Handle | AISI 304 | AISI 304 |
| 3 | Nut, Handle | AISI 304 | AISI 304 |
| 4 | Washer | AISI 304 | AISI 304 |
| 5 | Stem | ASTM A276 F316 | ASTM A276 F316 |
| 6 | Gland | AISI 304 | ASTM A276 F316 |
| 7 | Packing | TFE | TFE |
| 8 | Thrust Washer | Glass-filled TFE | Glass-filled TFE |
| 9 | Seat | Glass-filled TFE | Glass-filled TFE |
| 10 | Gasket | TFE | TFE |
| 11 | Ball | ASTM A276 F316 | ASTM A276 F316 |
| 12 | Cap | ASTM A216 WCB | ASTM A276 F316 |
| 13 | Body | ASTM A216 WCB | ASTM A276 CF8M |

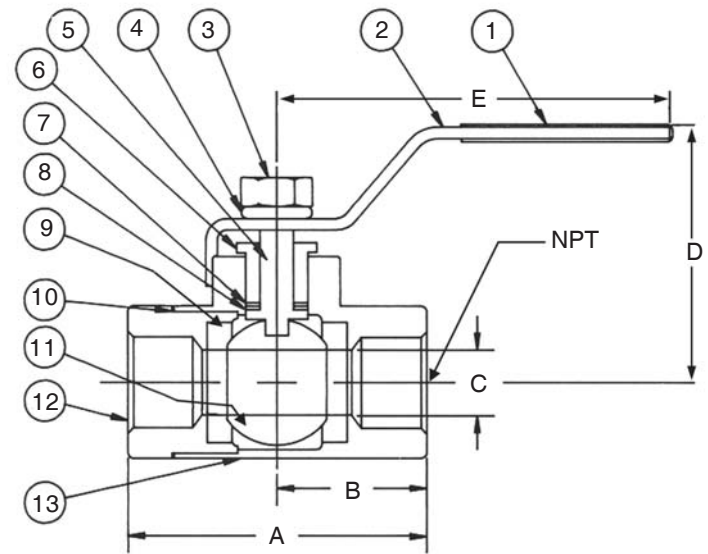
Technical Specifications

| Valve Size | Operating Torque in-lb | | Flow Coefficient Cv | | Weight Lb. | |
|------------|------------------------|---------------|---------------------|---------------|------------|---------------|
| | Full Bore | Standard Bore | Full Bore | Standard Bore | Full Bore | Standard Bore |
| 1/4" | 50 | — | 10 | — | 0.5 | — |
| 3/8" | 50 | — | 10 | — | 0.5 | — |
| 1/2" | 85 | 60 | 12 | 9 | 0.9 | 0.7 |
| 3/4" | 140 | 85 | 35 | 18 | 1.3 | 1.3 |
| 1" | 180 | 150 | 60 | 35 | 2.3 | 1.7 |
| 1-1/4" | 235 | 190 | 100 | 48 | 2.9 | 2.7 |
| 1-1/2" | 300 | 220 | 150 | 81 | 4.4 | 4.1 |
| 2" | 330 | 290 | 250 | 110 | 6.9 | 5.7 |
| 2-1/2" | 850 | — | 400 | — | 15.2 | — |
| 3" | 1200 | — | 600 | — | 20.2 | — |

Pressure-Temperature Chart



Dimensions



Dimensions - Standard Port (inches)

| Valve Size | Dimensions | | | | |
|------------|------------|------|------|-----|-----|
| | A | B | C | D | E |
| 1/2" | 2.24 | 1.10 | 0.49 | 1.7 | 3.8 |
| 3/4" | 2.99 | 1.50 | 0.67 | 2.0 | 4.1 |
| 1" | 3.39 | 1.69 | 0.87 | 2.2 | 4.1 |
| 1-1/4" | 4.02 | 1.97 | 0.98 | 2.6 | 5.6 |
| 1-1/2" | 4.37 | 2.20 | 1.26 | 2.8 | 5.6 |
| 2" | 5.39 | 2.48 | 1.50 | 3.0 | 5.6 |

Dimensions - Full Port (inches)

| Valve Size | Dimensions | | | | |
|------------|------------|------|------|-----|------|
| | A | B | C | D | E |
| 1/4" | 1.97 | 0.98 | 0.39 | 2.0 | 4.3 |
| 3/8" | 1.97 | 0.98 | 0.50 | 2.0 | 4.3 |
| 1/2" | 2.24 | 1.10 | 0.59 | 2.1 | 4.3 |
| 3/4" | 2.60 | 1.50 | 0.79 | 2.4 | 5.0 |
| 1" | 3.23 | 1.69 | 0.99 | 2.7 | 6.0 |
| 1-1/4" | 3.62 | 1.97 | 1.26 | 2.9 | 6.0 |
| 1-1/2" | 4.37 | 2.20 | 1.50 | 3.1 | 7.5 |
| 2" | 4.92 | 2.48 | 1.97 | 3.8 | 7.5 |
| 2-1/2" | 6.42 | 2.48 | 2.56 | 5.5 | 10.2 |
| 3" | 6.97 | 2.48 | 3.15 | 6.0 | 10.2 |



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