

# MUELLER® IRON BODY BRONZE MOUNTED CUSHIONED SWING CHECK VALVES – 2½” through 12” sizes

## PRODUCT SPECIFICATIONS

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### 1. GENERAL CLASSIFICATION

- 1.1 MUELLER Cushioned Swing Check Valves comply with all applicable provisions of ANSI/AWWA C508.
- 1.2 MUELLER Cushioned Swing Check Valves are suitable for non-shock cold water service.
- 1.3 MUELLER Cushioned Swing Check Valves are iron body, bronze mounted. Available with rubberfaced or bronzed-faced disc.

### 2. SIZE RANGE AND WORKING PRESSURE

- 2.1 2½” through 12” – 175 psi working pressure.

### 3. TYPE OF VALVE

- 3.1 MUELLER Cushioned Swing Check Valves are offered with two designs of disc closure mechanisms:
  - 3.1.1 Lever and Weight Operated Check Valve has adjustable position weight and lever arm attached to disc assembly for variable closure force.
  - 3.1.2 Lever and Spring Operated Check Valve has adjustable tension spring and lever arm attached to disc assembly for variable closure force.
- 3.2 MUELLER Cushioned Swing Check Valves are swing-type check valves for vertical or horizontal mounting. Vertical installation may require use of Check Valve with counter balance.
- 3.3 MUELLER Cushioned Swing Check Valves are offered with flange ends; flange dimensions and drilling complying with ANSI B16.1 Class 125 specifications (optional PN10/PN16 drilling available).

### 4. CUSHION CYLINDER

- 4.1 Corrosion-free brass piston connected to clapper disc shaft on outside of valve.
- 4.2 Rugged steel cylinder barrel rigidly mounted to check valve body.
- 4.3 Needle valve allows close regulation of cushioning effect at closure by restricting air flow from cylinder.
- 4.4 “Slamming” upon flow reversal is all but eliminated by cushion action. (Use of rubber disc facing is also helpful.)

### 5. MATERIAL SPECIFICATIONS

- 5.1 Body – Cast Iron ASTM 126 Grade B.
- 5.2 Cover – Cast Iron ASTM 126 Grade B.
- 5.3 Cover gasket – Cloth Inserted Rubber ASTM D2000.
- 5.4 Cover bolts and nuts – Steel ANSI B18.2.1.
- 5.5 Test plug – Steel ASTM A307.
- 5.6 Clapper arm – Cast bronze ASTM B584 Alloy C84400.
- 5.7 2½” and 3” valves.
  - 5.7.1 Stuffing box – Bronze ASTM A126 Grade B.
  - 5.7.2 Hinge pin – Stainless steel ASTM A267 Type 303.
  - 5.7.3 Hinge pin O-ring – Rubber ASTM D2000.
  - 5.7.4 Body O-ring – Rubber ASTM D2000.
  - 5.7.5 Cap screws – Steel ANSI B18.2.1.
- 5.8 4” thru 12” valves
  - 5.8.1. Stuffing box – Bronze ASTM B138.
  - 5.8.2. Hinge pin – Stainless steel ASTM A276 Type 303.
  - 5.8.3. Hinge pin O-rings – Rubber ASTM D2000.
  - 5.8.4. Stuffing box O-ring – Rubber ASTM D2000.
  - 5.8.5. Snap ring – Stainless steel

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### 5. MATERIAL SPECIFICATIONS (continued)

- 5.9 Disc stud – Bronze ASTM B21 Alloy C46400.
- 5.10 Disc stud nut – Cast bronze ASTM B62.
- 5.11 Disc
  - 5.11.1 3” and smaller sizes (and 4” with rubber faced disc) – Bronze, ASTM B584 Alloy C84400.
  - 5.11.2 4” and larger sizes (except 4” with rubber faced disc) – Cast iron, ASTM 126 Grade B.
- 5.12 Disc facing
  - 5.12.1 Metal type – Cast bronze ASTM B584 Alloy C84400; 4” and larger valves, permanently pressing into cast iron disc.
  - 5.12.2 Rubber type – Rubber ASTM D2000.
- 5.13 Seat ring – Cast bronze ASTM B584 Alloy C84400.
- 5.14 Disc retainer washer – Cast bronze ASTM B584 Alloy C84400.
- 5.15 Disc retainer nut – Bronze ASTM B62.
- 5.16 Hinge pin set screw – Stainless steel ASTM A193 Grade B-8.
- 5.17 Jam nut – Stainless steel ASTM A194 Grade 8.
- 5.18 Nut – Steel ASTM A307.
- 5.19 Lever
  - \*5.19.1 Weight lever – Steel ASTM A36; 4” and 6” valves, Ductile Iron ASTM A536.
  - \*5.19.2 Spring lever – Steel ASTM A107.
- \*5.20 Weight – Cast iron ASTM A126 Grade B.
- \*5.21 Weight adjustment screw – Steel AISI B18.6.2.
- \*5.22 Spring – Steel ASTM A227.
- \*5.23 Spring bracket – Steel ASTM A107.
- \*5.24 Spring shackle and pin – Forged steel.
- \*5.25 Eye bolt, nut and jam nut – Steel ASTM A307.
- \*5.26 Spring bracket cap screw – Steel ASTM A307.
- 5.27 Paint – Water reducible alkyd enamel primer, black.

\*As applicable

### 6. DESIGN FEATURES

- 6.1 Iron Body with thread attached bronze seat ring.
- 6.2 Clear full opening waterway when disc is in fully open position.
- 6.3 Operating parts accessible through top opening.
- 6.4 Heavy bronze bearings support hinge pin and pressure sealed with O-rings.
- 6.5 Large diameter stainless steel hinge pin.
- 6.6 Heavy bronze clapper arm.
- 6.7 Weights or spring lever may be used on either side of valve.
- 6.8 Weight or spring operated type check valves have clapper arm clamped to hinge pin with Stainless steel screws and jam nuts.
- 6.9 Heavy bronze disc stud is used.
- 6.10 Iron discs for metal seated valves have bronze disc rings roll swaged into place.
- 6.11 “D” shaped cover used with flow direction shown cannot be incorrectly assembled to cause flow direction error.

### 7. TEST PRESSURE

- 7.1 The pressure test on each Mueller Swing Check valve, in sizes 2½” thru 12”, exceeds the requirements of ANSI/AWWA C508 for Check Valves in that no leakage is permitted past the seat at twice the rated 175 psig working pressure. ANSI/AWWA C508 permits allowable leakage for Check Valves with metal seats.



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