

MUELLER® IRON BODY BRONZE MOUNTED CUSHIONED SWING CHECK VALVES, 2-1/2" THROUGH 12" SIZES



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 rubber-faced or bronzed-faced disc.

2. SIZE RANGE & WORKING PRESSURE

- 2.1 2 1/2" through 12" sizes.
- 2.2 175 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.)

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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 **2 1/2" 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
- 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.

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- *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 2¹/₂" 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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