

AWWA C500 ROLLING DOUBLE DISC GATE VALVE SPECIFICATION



1. SCOPE

1.01 This specification covers the design, manufacture, and testing of Rolling Double Disc AWWA C500 Metal Seated Gate Valves, suitable for water or wastewater service as set forth in the American Water Works Association (AWWA) C500 Standard, most recent published version.

2. STANDARDS

- 2.01** Valves 3-inch through 66-inch shall have a minimum cold-water working pressure of 250psig. Valves larger than 66-inch cold-water pressure rating on application and as agreed between the manufacture and customer. Valves larger than 72-inch, where applicable, shall be manufactured in compliance with AWWA C500.
- 2.02** Valves shall be designed and manufactured in accordance with the AWWA C500. ANSI/NSF 61 and ANSI/NSF 372 Certified for use in drinking water applications.
- 2.03** Valves shall be tested in accordance with Testing Section 5.1 of AWWA C500.

3. CONNECTIONS

- 3.01** Valve end-connections shall be:
- A.** Flange end-connections comply with ANSI B16.1 Class 125, rated for 250psig, or ANSI B16.42, Class 250 rated for 350psig, for ductile iron.
 - B.** Mechanical joint end-connections shall comply with ANSI/AWWA C110/A21.10, ANSI/AWWA C111/A21.11, or ANSI/AWWA C153/21.53.

4. DESIGN

- 4.01** Valve shall be non-rising stem (NRS) or outside screw and yoke (OS&Y) configurations, as specified.
- 4.02** Valve shall have bronze seating rings, machined and scraped, if necessary, to seat flat against body and disc seat rings.
- 4.03** Valves OS&Y shall have multiple rings of packing and a stuffing box.
- 4.04** Valves NRS shall have conventional packing or double o-ring packing
- 4.05** Valve shall permit repacking under line pressure.
- 4.06** Valve stem shall have one-piece integral thrust collar. Valve stems shall rotate freely in the valve bonnet recess and shall be Type 316 Stainless Steel.
- 4.07** Valve direction of open shall be counterclockwise; unless otherwise specified.
- 4.08** Valve 2-inch operating nut or handwheel shall have cast the word "OPEN" and an arrow indicating the direction to open.
- 4.09** Valves 16" and larger, shall have a U-shaped, Type 316 Stainless Steel, guide track to provide a bearing surface throughout the entire travel of the rolling disc to extend the service life of the valve to maintain a smooth operating surface also reducing the operating torque during operation of the valve.
- 4.10** Tracks shall be on both sides of the valve to allow the valve to be installed in the vertical or horizontal position. 16" and larger valves shall have bronze scrapers on both sides of the body to prevent sediment build-up in the valve.
- 4.11** Valve shall have two 360° ductile iron rolling discs, interchangeable and field replaceable without removal of the valve from the line. Discs shall be self-cleaning as they rotate during the opening and closing cycle.
- 4.12** Valves 16" and larger shall have two integral sets of by-pass orifices sized per AWWA C500. One set of orifices shall be located on the side of the valve and one set of orifices shall be located on the bottom of the valve. Unused by-pass orifices shall be covered with bolted covers. By-pass location shall be field changeable.

5. MATERIALS

- 5.01** Valve body, bonnet, yoke or packing plate, wedges, discs, and 2-inch operating nut or handwheel shall be ductile iron ASTM-A536 65-45-12.
- 5.02** Valves 4-inch and smaller, shall have ASTM B763 Alloy C95400 Aluminum Bronze discs. Valves 6-inch and larger shall have ductile iron ASTM A536 65-45-12 disc. Valves 108-inch constructed with high strength steel discs.
- 5.03** Valve scrapers, stem nut, disc seats and body seat rings shall be ASTM B763 Alloy C95400 Aluminum Bronze.
- 5.04** Valve wedge bearing surfaces shall be constructed of Type 316 Stainless Steel.
- 5.05** Valve stem shall be Type 316 Stainless Steel. Valves size 108-inch, stems shall be constructed of age hardened Type 630 Stainless Steel.
- 5.06** Valve body bolting shall be Type 316 Stainless Steel, unless otherwise specified.
- 5.07** Valves 16-inch and larger, shall have ASTM B763 Alloy C95400 Aluminum Bronze self adjusting scrapers.
- 5.08** Valve, by-pass valves:
- A.** Shall be Non-Rising Stem (NRS) or Outside Screw and Yoke (OS&Y) gate valves, as specified.
 - B.** Shall comply fully with AWWA C500 or C509
 - C.** Shall open counterclockwise, unless otherwise specified.
 - D.** Shall have 2-inch operating nut or handwheel, as specified.

6. COATINGS

- 6.01** Valve internal and external coatings shall be ANSI/NSF 61 Certified, 2-Part Thermal Setting Epoxy Paint.
- 6.02** Valve internal and external coatings shall be in accordance with AWWA C550.

7. MANUAL GEARING

- 7.01** Valves 16-inch and larger shall have bevel gearing or spur gearing depending on the application requirements. Bevel Gears or Spur Gears can be adapted to any size valve upon request.
- 7.02** Valve gear case fully enclosed, unless otherwise specified.

8. OPTIONS

- 8.01** Extension Stems
- 8.02** Position Indicators
- 8.03** Valve Boxes
- 8.04** Indicator Posts
- 8.05** Electric Motor Operators
- 8.06** Limit Switches

9. MANUFACTURER

- 9.01** Valves shall be hydrostatically leak tested and shell tested per AWWA C500 to show structural integrity. When requested, the manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.
- 9.02** Rolling Double Disc Metal Seated Gate Valve, Series 7000, shall be manufactured by J&S Valve, Inc., Huffman, Texas or preapproved equals. (062120 rl, jb, sb)



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