

AWWA C500 METAL SEATED IRON BODY BRONZE MOUNTED SOLID WEDGE GATE VALVE

1. SCOPE

1.01 This specification covers design, manufacture, and testing of 3-inch through 108-inch, Metal Seated Gate Valves, suitable for water or wastewater service as set forth in the American Water Works (AWWA) C500 Standard, most recent published version.

2. STANDARDS

- 2.01** Valves 3-inch through 12-inch minimum cold-water working pressure of 200psig; 14-inch through 72-inch minimum cold-water working pressure of 150psig. Valves larger than 72-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 NSF 61 and NSF 372 Certified for use in drinking water applications.
- 2.03** Valves shall be tested in accordance with Testing Section 5.1 of the 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 - ANSI/AWWA C110/A21.10, ANSI/AWWA C111/A21.11, or ANSI/AWWA C153/21.53, C153/21.53.

4. DESIGN

- 4.01** Valves shall be non-rising stem (NRS) or outside screw and yoke (OS&Y) configurations, as specified.
- 4.02** Valve shall have full nominal port diameter; reduced port not acceptable.
- 4.03** Valve shall have a full-port, unobstructed, water way when in the full-open position.
- 4.04** Valves shall have bronze seating rings, machined and scraped, if necessary, to seat truly flat against body and wedge seat rings.
- 4.05** Valves OS&Y shall have multiple rings of packing and a stuffing box.
- 4.06** Valve shall permit repacking under line pressure.
- 4.07** Valve stem shall have one-piece, integral thrust collar. Valve stems shall rotate freely in the valve bonnet recess.
- 4.08** Valve direction of open shall be counterclockwise; unless otherwise specified.
- 4.09** Valve 2-inch operating nut or handwheel shall have cast the word "OPEN" and an arrow indicating the direction to open.
- 4.10** Valves 16-inch and larger shall be provided with tongue- and-groove guides. The guides shall be on both sides of the wedge and in the body to keep the wedge centered between the seats throughout its length of travel.
- 4.11** Valves 16-inch and larger shall have rollers, tracks, and a self-adjusting scrapers on both sides allowing valves to be installed in the vertical or horizontal position. Tracks shall be U-shaped stainless steel to cover the entire side surface of the body to prevent any build-up and foreign matter in the valve body.
- 4.12** Valves 16-inch and larger shall be supplied with a by-pass valve, when specified.
- 4.13** Valves, 30-inch and larger, shall be 3-piece body design; bonnet, body spacer, body.
- 4.14** Valve castings shall be marked with the requirements of AWWA C500 and MSS-SP25.

5. MATERIALS

- 5.01** Valve body, bonnet, wedge and 2-inch operating nut or handwheel shall be ductile iron ASTM-A536 65-45-12.
- 5.02** Valves shall have bronze seat rings.
- 5.03** Valves shall have Garlock fiber braded Teflon impregnated, or equal, non-asbestos packing or o-rings.
- 5.04** Valve stuffing box glands shall be bronze; gland followers shall be ductile iron.
- 5.05** Valve stem shall be Series 300 Stainless Steel
- 5.06** Valve body and bonnet bolting shall be Series 300 Stainless Steel, unless otherwise specified.
- 5.07** Valves, 16-inch and larger, shall have tongue-and-groove guides constructed of Series 300 Stainless Steel.
- 5.08** Valves, 16-inch and larger, shall have rollers and tracks constructed of Series 300 Stainless Steel.
- 5.09** Valves, 16-inch and larger, shall have bronze self-adjusting scrapers.
- 5.10** Valve, by-pass valves:
- A.** Shall be non-rising stem or OS&Y gate valves, as specified.
 - B.** Shall comply fully with AWWA C509, C515, or C500
 - 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 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 18-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 seat 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** Metal Seated Solid Wedge Gate Valve Series 3000 manufactured by J&S Valve, Inc. Huffman, TX, USA or preapproved equal. (10062019 jb sb rl)