

## **GATE VALVES**

### **PART 1 – GENERAL**

#### **1.01 SECTION COVERS**

- A. The design, manufacture, and testing of 3” through 108” gate valves of the metal seated design, for the purpose of providing isolation as indicated.

#### **1.02 REFERENCES & STANDARDS**

- A. AWWA C500 “Metal-Seated Gate Valves for Water Supply Service”
- B. ASTM A536 “Standard Specification for Ductile Iron Castings”
- C. ANSI B16.1 “Pipe Flanges and Flanged Fittings”
- D. AWWA C111 “Rubber-Gasketed Joints for Ductile-Iron Pressure Pipe and Fittings”
- E. NSF 61/372 “Drinking Water System Components – Health Effects”

#### **1.03 QUALITY ASSURANCE**

- A. Valves shall be warranted by the manufacturer for defects in materials and workmanship for a period of one year (12 months) from date of shipment.
- B. Each valve and actuator shall be assembled, adjusted and tested as a unit by the valve manufacturer.

### **PART 2 – PRODUCTS**

#### **2.01 ACCEPTABLE MANUFACTURERS**

- A. McWane Plant & Industrial (MPI)
- B. M&H Valve Company
- C. Kennedy Valve
- D. Clow Valve

#### **2.02 ROTATING DISC GATE VALVES**

- A. Valve body and bonnet shall be ductile iron per ASTM A536.
- B. Valve wedge and discs shall be ductile iron per ASTM A536. Discs shall be interchangeable and independent from wedge, leaving them free to rotate as the valve is operated. Discs and wedges shall be free of any pockets, linkages, or pins.
- C. Valve disc and body seat rings shall be bronze.
- D. Valve stems shall be stainless steel with integral collar in full compliance with AWWA.
- E. Valve shall be either non-rising stem (NRS) or rising stem (OS&Y), open by turning left or right, and provided with a 2” operating nut or handwheel.
- F. NRS valves shall be provided with conventional packing or double O-rings. OS&Y valves shall be provided with conventional packing. Stem packing shall be field replaceable, such that the valve can be packed under pressure when in the fully open position.
- G. When specified, valves 14” and larger installed in a horizontal orientation shall be provided with a track and scraper system. Track and scraper system shall consist of two bronze scrapers affixed to a modified upper wedge which travel along bronze body guides to remove sediment buildup during operation.

- H. When specified, valves 14" and larger installed in a vertical orientation shall be provided with two integrally cast flushing ports. Drain plugs used as flushing ports will not be accepted.
- I. When specified, valves 16" and larger shall be provided with a bypass valve. Bypass type and materials provided as specified.
- J. Pressure ratings shall be 250 psi for class 125 valves and 300 psi for class 250. Valves shall be hydrostatically shell tested to 2 times the rated pressure per AWWA C500.
- K. Valves 14" and larger shall be provided with a bevel gear for horizontal valve orientations or spur gear for vertical orientations.
- L. All valve fasteners shall be stainless steel.
- M. The interior and exterior of the valve shall be coated with an NSF-61 approved two-part epoxy.
- N. Each valve shall have manufacturer's name, pressure rating, and year in which it was manufactured cast in the body.

### **PART 3 – INSTALLATION**

- A. Vertical installation orientations are preferred whenever possible, allowing gravity to assist with valve closure, resulting in lower operating torque requirements.