SECTION 15100
AWWA BUTTERFLY VALVES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. AWWA Butterfly Valves, Class 25A/75B/150B, 24-168" (600-4200mm) flanged end or 24-48” (600-1200mm) mechanical joint end for the purpose of providing isolation or throttling control as indicated.

1.02 REFERENCES

A. AWWA C111/A21.11 "Rubber Gasket Joints for Ductile Iron Pressure Pipe and Fittings”
B. AWWA C504 “Rubber Seated Butterfly Valves”
C. AWWA C516 “Large Diameter Rubber Seated Butterfly Valves, Sizes 78 in. and Larger
D. ASTM D471 “Standard Test Method for Rubber Property – Effect of Liquids”
E. ASTM D1149 “Standard Test Methods for Rubber Deterioration – Cracking in an Ozone Controlled Environment”
F. AWWA C110 “Ductile Iron and Gray Iron Fittings”
G. AWWA C153 “Ductile Iron Compact Fittings”
H. AWWA C207 “Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In.”
G. ASME B16.1 "Pipe Flanges and Flanged Fittings"

1.03 SUBMITTALS

A. Submit detailed product data and descriptive literature to include dimensions and materials of construction.
B. Provide shop drawings to show installation arrangement of major component assemblies.

1.04 QUALITY ASSURANCE

A. Supplier shall have been manufacturing AWWA butterfly valves for a period of at least ten years. At the engineer's request, supplier shall provide a list of installations involving equipment of similar size and application.
B. Valves and Actuators shall be warranted by the manufacturer for defects in materials and workmanship for a period of two years (24 months) from date of shipment.
C. 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. DeZURIK
   1. DeZURIK AWWA Butterfly Valve (BAW)

2.02 AWWA BUTTERFLY VALVES

A. Design:
   1. Valve sizes 24-72” (600-1800mm) shall meet or exceed the requirements of the latest revision of AWWA C504 and AWWA C516 for 78-168” (2000-4200mm). All valves shall comply with the requirements of the AWWA class specified by customer or if the AWWA class is not specified, the valve shall meet the requirements of AWWA Class 150B. When customer specified, valves shall meet NSF/ANSI/CAN 61/372. End Connections shall be flanged and drilled per ASME B16.1.

B. Materials:
   1. Discs shall be offset to provide an uninterrupted 360 degree seating edge and shall be ductile iron ASTM A536 Grade 65-45-12 or 316 Stainless Steel ASTM A743. The disc shall be securely attached to the valve shaft using 304 Stainless Steel taper pins. Disc structures containing hollow cavities are not acceptable.
   2. Bodies shall be cast iron per ASTM A126 Class B or ductile iron per ASTM A536 Grade 65-45-12. Flanged end valves shall be of the short body design. Sizes 24-72” (600-800mm) shall have Class 125 flanged ends faced and drilled per ASME B16.1 for cast iron flanges. Sizes 78-168” (2000-4200mm) shall be drilled per AWWA C507 Class D. Mechanical joint end valves shall meet the requirements of AWWA C111/A21.11.
   3. Seat shall be Acrylonitrile-Butadiene (NBR) for water, or as required for other services, and shall be retained within a dovetail groove in the valve body and locked in place by an epoxy compound wedge. Compression between the seat and disc edge shall be adjustable from both the upstream and downstream side of the valve disc and the seat shall be field adjustable and replaceable without disassembly of the disc and shaft. Seats with unidirectional adjustment, seats retained in the valve body by fasteners and/or retaining rings, and seats retained on the valve disc are not acceptable.
   4. Disc edges shall be solid ASTM A276, 316 Stainless Steel. Sprayed mating seating surfaces are not acceptable.
   5. Shafts shall be 304 Stainless Steel. The shaft seals shall be self-compensating V-type packing with a minimum of four sealing rings. One-piece molded shaft seals and O-Ring shaft seals are not acceptable.
   6. Bearings shall be PTFE lined with a non-metallic fiberglass composite backing and shall be permanently lubricated.
   7. Coatings shall be applied to interior and exterior metallic surface per the latest revision of AWWA C504 or C516, unless otherwise specified.

C. Actuators:
   1. Actuators shall be sized to customer specified operating conditions. If operating conditions are not provided, per AWWA C504 the actuator shall be sized to operate the valve at its rated working conditions. Each valve and valve actuator shall be assembled, adjusted, and

tested as a unit per the latest version of AWWA C504, by the valve manufacturer.

---

2. Manual Actuators: Actuators shall be designed and tested per the requirements of AWWA C504. Actuators shall be available in both weatherproof and buriable constructions with handwheel, chainwheel, or 2” (50mm) square AWWA nut input. All units shall have independently adjustable open and closed position stops that are adjustable under full line pressure and flow. Open and closed position stop adjustments shall not require the removal of any load or torque transmitting components.
3. Pneumatic and Hydraulic Cylinder Actuators: Actuators shall be double acting, stationary mounted with all working parts totally protected within weatherproof enclosures. Actuators must be in total conformance to AWWA C540, when specified.

D. Every valve shall be given a certified hydrostatic shell test and seat test, with test reports being available upon request.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Mount the actuator on the valve before installation.
B. Flange gaskets are required.
C. Install the valve with the seat side upstream.
D. Install the valve with the shaft horizontal to provide self-cleaning action, if possible.