DeZURIK

SECTION 15100
AWWA BUTTERFLY VALVES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. AWWA Butterfly Valves, Class 150B, 3-20" (80-500mm) flanged end or 4-20” (100-500mm) 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. ASTM D429 “Standard Test Methods for Rubber Property – Adhesion to Rigid Substrates”
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 C153 “Ductile Iron Compact Fittings”
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 3-20” (80-500mm) shall meet or exceed the requirements of the latest revision of AWWA C504 for Class 150B butterfly valves. Valves 12” (300mm) and smaller shall have a working pressure of 150 psi (1030 kPa). 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 utilizing a field removable/replaceable 316 Stainless Steel torque screw on sizes 3-12” (80-300mm) or a tangential pin locked in place with a set screw on sizes 14-20” (350-500mm).
   2. Bodies shall be cast iron per ASTM A126, Class B. Flanged end valves shall be of the AWWA C504 short body design with Class 125 flanged ends faced and drilled per ASME B16.1 standard for cast iron flanges. 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 molded in and vulcanized to the valve body. The seat shall contain an integral shaft seal protecting the valve bearings and packing from any line debris. Seats vulcanized to cartridge inserts in the valve body and seats on the disc are not acceptable.
   4. Disc edges shall be solid ASTM A276, 316 Stainless Steel. Discs with bronze edges shall not be used. Per AWWA C504, bronze disc edges are not suitable for installations where valves will be operated more than once per month.
   5. Shafts shall be ASTM A276, 316 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 non-metallic and permanently lubricated.
   7. Coatings shall be applied to interior and exterior metallic surfaces per the latest revision of AWWA C504, unless otherwise specified.
   8. Rubber lining on the interior of the body shall be fully vulcanized to the valve body. Mechanical joint valves shall be fully rubber lined to the point of pipe insertion. Rubber lining on the flange face and boot style seats are not acceptable.

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 actuator shall be assembled, adjusted, and tested as a unit by the valve manufacturer per the latest version of AWWA C504.
   2. Ten Position Locking Levers: Lever shall be available for 3-8” (80-200mm) size valves. The lever design shall allow locking in any of the ten positions using a standard padlock.
   3. 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.
   4. 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. For Class 150 valves, the shell pressure test shall be conducted at 300 psi (2070 kPa) and the seat pressure test shall be conducted at 150 psi (1030 kPa). 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 at least eight pipe diameter lengths downstream from the closest elbow or pump, to reduce the effects of downstream disturbances.
D. Install the valve with the shaft horizontal to provide self-cleaning action, if possible.