

**BUTTERFLY VALVE  
Val-Matic Specification**

**1 Scope**

**1.1** This specification is designed to cover the design, manufacture, and testing of AWWA Class 150B (3"-108") and AWWA Class 250B (4"-48") butterfly valves.

**2 Standards, Approvals and Verification**

**2.1** The valves shall be designed, manufactured and tested in accordance with American Water Works Association Standard ANSI/AWWA C504.

**2.2** Valves shall be proof of design tested in accordance with ANSI/AWWA C504, and certified to ANSI/NSF 61 Drinking Water System Components - Health Effects.

**2.3** Manufacturer shall have a quality management system that is certified to ISO 9001:2000 by an accredited, certifying body.

**3 Connections**

**3.1** Flanged end connections shall fully conform with ANSI B16.1 for Class 125, Class 250 iron flanges, or AWWA C207 Class D. Both 125 and 250 flanges shall be flat faced.

**3.2** Mechanical Joint end connections shall fully conform with ANSI/AWWA C111/A21.11.

**3.3** Wafer end connections shall be designed for installation between ANSI B16.1 Class 125 iron flanges or between ISO 7005-2 PN10 or PN16 flanges.

**4 Design**

**4.1** Valve shafts shall be of the through-type for sizes 3"-24". 30" and larger shall be of the stub type design. Shafts shall be locked to the disc by O-Ring sealed taper pins retained with stainless steel nuts. Through-type shafts shall be supplied on 30" and larger valves when specified.

**4.2** Valve Discs shall be of the solid type without external ribs or vanes to obstruct flow.

**4.3** Resilient seats shall be located on the valve disc and shall provide a 360° continuous, uninterrupted seating surface. Seats shall be mechanically retained with a stainless steel retaining ring and stainless steel Nylok® cap screws which shall pass through both the resilient seat and the retaining ring. The retaining ring shall be continuous or investment cast with overlapping sections, serrated grooves, and shoulders providing a Tri-Loc® system. The resilient seat's mating surface shall be to a 360° continuous, uninterrupted stainless steel body seat ring. Resilient seats shall be field adjustable and replaceable and shall not require hypodermic needles or pressure vessels to replace or adjust.

**4.4** Sleeve bearings shall be provided in the valve hubs and shall be nylatron or woven teflon, fiberglass backed. They shall be self-lubricating.

**4.5** Thrust bearings shall be provided and shall be adjustable on valves 30" and larger.

**4.6** Shaft seals shall be of the V-type and shall be replaceable without removal of the valve from the line or the shaft from the valve.

**5 Materials**

**5.1** Body: Class 150B valve bodies shall be ASTM A126, Class B gray iron or ASTM A536 Grade 65-45-12 ductile iron. Class 250B valve bodies shall be ASTM A536 Grade 65-45-12 ductile iron.

**5.2** Disc: Valve disc shall be ASTM A536 Grade 65-45-12 ductile iron.

**5.3** Shafts: Shafts shall be ASTM A276 type 304, or ASTM A564, Type 630 Stainless Steel.

**5.4** Seat: Resilient seat shall be Buna-N and mate to a Type 316 Stainless Steel body seat ring.

**5.5** Hardware: All seat retaining hardware shall be Type 316 stainless steel.

**6 Actuation**

**6.1** Manual, electric or cylinder actuation shall be provided as specified.

**7 Options**

**7.1** Optional body material is ASTM A536 , Grade 65-45-12 ductile iron.

**7.1** Optional shaft material is ASTM A276 , Type 316 stainless steel.

**8 Manufacture**

**8.1** Valve exteriors for above ground service shall be coated with a universal, alkyd primer. Valve exteriors for buried service shall be coated with an epoxy coating. Valve interiors shall be coated with an ANSI/NSF 61 epoxy coating approved for potable water. Fusion bonded epoxy shall be supplied on the exterior and interior when specified.

**8.2** Valve shall be Val-Matic® Series 2000 or equal.

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ANSI/NSF Standard 61  
Drinking Water System Components  
2LA8

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**VAL-MATIC®** VALVE AND MANUFACTURING CORP.

DRWG. NO.  
**VM-2000-S**