

# VBE2-W WAFER STYLE BUTTERFLY VALVE

- Economical
- Lightweight
- Heavy-duty
- 4" through 12" sizes
- 150 PSI Service

## USES:

- Agriculture, pump control and isolation
- Dairy industry
- Water distribution systems
- Food and beverage industry
- Pulp and paper industry
- Transportation industry
- Chemical plants

## FEATURES:

**SEAT** - Buna-N. Easy field replacement. No flange gaskets required.

**BODY** - Full loop lugs for easy installation and alignment.

**DISC** - Streamlined, full flow design.

**STEM** - Pinned stem retention allows operator to be changed while valve is in service. O-rings for full leakage protection.

**SEALS** - Valve body and stem isolated from fluids by O-rings and elastomer seat.

**OPERATORS** - Lever, gear, electric, hydraulic, pneumatic. (See pages 33B and 34B for operators.)

**TESTING** - Each valve tested bubble tight @ 200 PSI.

**ACCESSORIES** - Operator pedestals, stem extensions, stem guides.

**MAXIMUM OPERATING PRESSURE** - 150 PSI



Model VBE2-W  
with lever operator



VBE2-W  
with gear and handwheel

## TYPICAL SPECIFICATIONS VBE2-W BUTTERFLY VALVES

### General

Valve Size: 4", 6", 8", 10" and 12".

Body Style: Wafer designed to install between ANSI 125/150# flanges.

All butterfly valves shall be of the tight closing, rubber-lined type with seat ring securely contained within the valve body. Valves shall be bubble-tight at rated pressure of 150 PSI with flow in either direction. Valve discs shall rotate minimum 90 degrees from full open to the tight shut-off position. The manufacturer shall have manufactured tight closing butterfly valves for a period of at least five years. All valves shall be model VBE2-W as manufactured by Waterman Industries, Inc. or approved equal.

### Materials

Body: Cast Iron ASTM A-126B

Disc: Cast Iron ASTM A-126B

Seats: (a) Buna-N or (b) EPDM

Shafts: Annealed and smooth turned stainless steel ASTM A-276 Type 304

Shaft Bearings: Nonmetallic, low friction type

### Construction

Valve bodies shall incorporate four full loop lugs to facilitate alignment with mating flanges during installation. The bodies of all valves shall have two hubs for shaft-bearing housings cast integrally with the valve bodies. All exposed surfaces shall be fusion epoxy coated with 1.5 to 3.0 mils total dry film thickness.

Valve shafts shall be "stub" type inserted into the valve disc hubs. Each stub shaft shall be inserted into the valve disc hubs for a distance of at least 1½ shaft diameters. See below for minimum required shaft diameters.

The diameter of the stainless steel shafts shall meet the requirements of AWWA C-504 Class 150B standard.

Valve Diameter	Shaft Diameter
4"	0.625"
6"	1.000"
8"	1.125"
10"	1.375"
12"	1.500"

The minimum shaft diameter shall extend through the valve bearings and into the valve disc. The connection between the shaft and disc shall be designed to transmit shaft torque equivalent to at least 75 percent of the torsional strength of the minimum required shaft diameter.

Valve discs shall be of a cast design with no external ribs transverse to the flow. The design shall be such as to sustain full differential pressures across a closed valve disc without exceeding a working stress of one-fifth of the tensile strength of the material used. Discs shall be fusion epoxy coated with 1.5 to 3.0 mils total dry film thickness.

The resilient seat shall be of one-piece molded design and act as a liner to prevent flowing media from contacting the body. The seat shall have integral flange seals eliminating the need for flange gaskets, and integral shaft seals to accomplish sealing between the flat of the disc hub and the seat.

Valves shall be fitted with sleeve type bearings contained in the hubs of the valve body. Bearings shall be designed for a pressure not exceeding the published design load for the bearing material, or one-fifth of the compressive strength of the bearing or shaft material. Bearing materials shall have a proven record of service of not less than five years.

### **Lever Operator**

Lever operators shall be equipped with a minimum seven-position stop plate. The stop plate shall be made of cast iron, per ASTM A-126B and shall be a minimum of 0.375" thick with the words "open" and "closed" integrally cast in raised letters. The stop plate shall be designed to accommodate a padlock to allow the valve to be locked in any one of the seven positions from full open to full closed.

The lever shall be a two-piece design with a spring to return the lever to the latched position upon release. The lever shall be cast ductile iron per ASTM A-536 GR. 65-45-12.

### **Geared Operator**

Each operator shall be equipped with adjustable mechanical stops to prevent over-travel of the valve disc in the open and closed positions. Operator housings, supports, and connections to the valve shall be designed with a minimum safety factor of 5, based on the ultimate strength, or 3, based on the yield strength of materials used. All gearings shall be totally enclosed.

Operators shall be designed to produce the specified torque with a maximum pull of 80 pounds on the handwheel and a maximum input of 150 ft-lbs on operating stems.

Worm gears shall be made of cast ductile iron per ASTM A-536 and worms shall be of hardened steel.

Where buried service is required, gear housings shall be pre-lubricated and factory sealed.