American Water Works Association

AWWA STANDARD

for

RUBBER-SEATED BUTTERFLY VALVES

This "Standard for Rubber-Seated Butterfly Valves" is based upon the best known experience and is intended for use under conditions in which the maximum line velocity will not exceed 16 fps. Torque requirements for operation increase rapidly with increase in velocity. In specifying valves to be purchased under this standard, care must be exercised by the responsible engineer to ascertain that operating conditions fall within the scope of the standard.

Approved as "Tentative" May 27, 1954. Revised Nov. 7, 1955, Sep. 16, 1957; made Standard Jan. 26, 1958

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Latest Revisions to C504

A number of revisions to C504 were approved Sep. 16, 1957; shortly thereafter, on Jan. 26, 1958, the document was made Standard without further change. The revisions include the addition of Sec. 4.3, together with changes in Sec. 9 and Sec. 12. These revisions have been incorporated in the ninth and later printings. All earlier printings are obsolete.

Designation. The former designation, "C504–55T," has been changed to "C504–58."

This printing contains all the revisions and changes referred to above.

AWWA Standard for

Rubber-Seated Butterfly Valves

Sec. 1—Scope

1.1. This standard covers cast-iron and steel, flanged-end, rubber seat, tight-closure butterfly valves, 3–72 in. in size, for maximum shutoff pressures and line velocities as indicated in Table 1, together with torque requirements for operation. The valves specified are suitable for frequent operation, operation after long periods of idleness, and operation in a throttled position in water lines.

1.2. This standard covers valves designed for the shutoff pressure indicated in Table 1. Valves in each class shall be designed for opening and closing against the shutoff pressure specified with pipeline velocities not exceeding the velocity specified for each class. (Pipeline velocity is defined as water flow, in cubic feet per second, divided by the internal area of the pipe, in square feet.)

1.3. This standard is not intended to cover valves for installations where service conditions exceed the shutoff pressures and line velocities stated in Table 1 or where the water involved has a pH of less than 5 or a temperature in excess of 190°F. Such conditions are beyond the intended scope of this standard and require special consideration in matters of design and construction.

1.4. Torque requirements for valve operation vary considerably with increases in design pressure and fluid velocity. Conditions under which valves are to be operated must be carefully evaluated to determine the maximum velocity that might result either from operating conditions or from a line break. For valves purchased under this standard, the velocities must not exceed those shown in Table 1, for valves which will be subjected to the maximum design shutoff pressure designated for each class.

Sec. 2—Information to Be Supplied by Purchaser

In placing orders for valves to be manufactured in accordance with this standard, purchasers should specify the following details:

TABLE 1

Classes of Valves

Class	Shutoff Pressure *psi*	Max. Pipeline Velocity *fps*
25–8	25	8
25–16	25	16
50–8	50	8
50–16	50	16
125–8	125	8
125–16	125	16

2.1. Designation of AWWA standard applying.

2.2. Size of valve.

2.3. Class of valve.

2.4. Quantity required.

2.5. Whether records of tests are to be furnished as specified under Sec. 5.3 of this standard.

2.6. Type of operation required; that is, electric motor, air cylinder, water cylinder, oil cylinder, or manual. If electric operation, power characteristics for motor; if cylinder operation, medium available (air, water, or