Butterfly Valves: Double-flanged, Lug- and Wafer-type

Downstream Segment

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Foreword

This standard is a purchase specification for butterfly valves designed for installation between flanges specified in ASME B16.1, ASME B16.5, ASME B16.24, and ASME B16.42, Classes 125-600; MSS SP-44, Class 150; and ASME B16.47, Series A, Class 150 (was MSS SP-44 except for certain materials) or Series B (was API 605), Class 150 for the NPS sizes defined herein.

This standard requires the purchaser to specify certain details and features. Although it is recognized that the purchaser may desire to modify, delete, or amplify sections of this standard, it is strongly recommended that such modifications, deletions, and amplifications be made by supplementing this standard, rather than by rewriting or incorporating sections thereof into another complete standard.

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Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

Important Information Concerning Use of Asbestos or Alternative Materials

Asbestos is specified or referenced for certain components of the equipment described in some API standards. It has been of extreme usefulness in minimizing fire hazards associated with petroleum processing. It has also been a universal sealing material, compatible with most refining fluid services.

Certain serious adverse health effects are associated with asbestos, among them the serious and often fatal diseases of lung cancer, asbestosis, and mesothelioma (a cancer of the chest and abdominal linings). The degree of exposure to asbestos varies with the product and the work practices involved.

Consult the most recent edition of the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, Occupational Safety and Health Standard for Asbestos, Tremolite, Anthophyllite, and Actinolite, 29 *Code of Federal Regulations* Section 1910.1001; the U.S. Environmental Protection Agency, National Emission Standard for Asbestos, 40 *Code of Federal Regulations* Sections 61.140 through 61.156; and the U.S. Environmental Protection Agency (EPA) rule on labeling requirements and phased banning of asbestos products (Sections 763.160-179).

There are currently in use and under development a number of substitute materials to replace asbestos in certain applications. Manufacturers and users are encouraged to develop and use effective substitute materials that can meet the specifications for, and operating requirements of, the equipment to which they would apply.

SAFETY AND HEALTH INFORMATION WITH RESPECT TO PARTICULAR PRODUCTS OR MATERIALS CAN BE OBTAINED FROM THE EMPLOYER, THE MANUFACTURER OR SUPPLIER OF THAT PRODUCT OR MATERIAL, OR THE MATERIAL SAFETY DATASHEET.

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1 Scope

1.1 This standard covers design, materials, face-to-face dimensions, pressure-temperature ratings, and examination, inspection and test requirements for gray iron, ductile iron, bronze, steel, nickel-based alloy, or special alloy butterfly valves that provide tight shutoff in the closed position. The following two categories of butterfly valves are included.

a) Category A—Manufacturer's rated cold working pressure (CWP) butterfly valves, usually with a concentric disc and seat configuration. Sizes covered are NPS 2 to NPS 48 for valves having ASME Class 125 or Class 150 flange bolting patterns.

b) Category B—ASME Class and pressure-temperature rated butterfly valves that have an offset seat and either an eccentric or a concentric disc configuration. These valves may have a seat rating less than the body rating. For lug and wafer, Class 150, 300, and 600, sizes covered are NPS 3 to NPS 24. For double-flanged long pattern, Class 150, 300, and 600, sizes covered are NPS 3 to NPS 36. For double-flanged short pattern, Class 150 and 300, sizes covered are NPS 3 to NPS 48. For double-flanged short pattern, Class 600, sizes covered are NPS 3 to NPS 24.

1.2 Valve configurations include double-flanged, lug- and wafer-types with facings that permit installation between ASME and MSS flanges that conform to the standards and specifications listed in Section 2.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Text in brackets after a publication title indicates a restriction on the classes to which the publication applies.

API Standard 598, *Valve Inspection and Testing*

API Standard 607, *Fire Test for Soft-seated Quarter-turn Valves*

ASME B1.1 [1], *Unified Inch Screw Threads* [UN and UNR Thread Form]

ASME B16.1, *Gray Iron Pipe Flanges and Flanged Fittings* [Classes 25, 125, and 250]

ASME B16.5, *Pipe Flanges and Flanged Fittings* [NPS 1/2 through NPS 24 Metric/Inch Standard]

ASME B16.20, *Metallic Gaskets for Pipe Flanges—Ring-Joint, Spiral-Wound, and Jacketed*

ASME B16.24, *Cast Copper Alloy Pipe Flanges and Flanged Fittings* [Classes 150, 300, 600, 900, 1500 and 2500]

ASME B16.34, *Valves-Flanged, Threaded, and Welding End* [Standard Class 150, 300, and 600 only]

ASME B16.42, *Ductile Iron Pipe Flanges and Flanged Fittings* [Class 150 and 300]

ASME B16.47, *Large Diameter Steel Flanges: NPS 26 Through NPS 60* [Class 150 only]

ASME B31.3, *Process Piping*

[1] ASME International, 3 Park Avenue, New York, New York 10016-5990, www.asme.org.