

**MSS SP-80-2003**

# Bronze Gate, Globe, Angle, and Check Valves

**Standard Practice**  
Developed and Approved by the  
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Unless otherwise specifically noted in this MSS SP, any standard referred to herein is identified by the date of issue that was applicable to the referenced standard(s) at the date of issue of this MSS SP. (See Annex C.)

U.S. customary units in this SP are the standard; the metric units are for reference only.

This document has been substantially revised from the previous 1997 edition. It is suggested that if the user is interested in knowing what changes have been made, that direct page by page comparison should be made of this document.

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Originally Approved November, 1974

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**BRONZE GATE, GLOBE, ANGLE, AND CHECK VALVES**

**0. PURPOSE**

0.1 This MSS Standard Practice establishes requirements for bronze gate, globe, angle, and check valves in Classes 125 (PN 20), 150, 200, 300 (PN 50) and 350 for threaded and solder ends and Classes 150 (PN 20) and 300 (PN 50) for flanged ends. Pressures in this Standard Practice are gauge pressure in pounds per square inch (kPa). Hereafter the pressure will appear as psi (kPa).

**1. SCOPE AND VALVE TYPES**

1.1 *Scope* This Standard Practice establishes requirements for bronze gate, globe, angle, and check valves for general purpose services and provides requirements for the following:

- a) Pressure-Temperature Ratings
- b) Materials
- c) End Connections
- d) Dimensions
- e) Markings
- f) Testing and Inspections

**1.2 *Valve Types***

**1.2.1 *Gate Valves***

- a) Type 1A - Solid Wedge: Non-Rising Stem (NRS), External Stuffing Box for Stem Retention Fig. B1, Annex B.
- b) Type 1B - Solid Wedge: Non-Rising Stem (NRS), Internal Stem Retaining Nut for Stem Retention Fig. B2, Annex B.
- c) Type 2 - Solid Wedge (Double Disc): Inside Screw, Rising Stem (ISRS) Fig. B3, Annex B.

- d) Type 3 - Split Wedge (Double Disc): Inside Screw, Rising Stem, (ISRS) Fig. B4, Annex B.
- e) Type 4 - Double Disc: Parallel Seat, Inside Screw, Rising Stem (ISRS) Fig. B5, Annex B.

**1.2.2. *Globe and Angle Valves***

- a) Type 1 - Metal Disc, Integral Seat Fig. B6, Annex B.
- b) Type 2 - Non-Metallic Disc, Integral Seat Fig. B7, Annex B.
- c) Type 3 - Metal Disc, Renewable Seat Fig. B8, Annex B.

**1.2.3 *Check Valves***

- a) Type 1 - Horizontal, Angle Lift Check, Metal Disc to Metal Seat Figures B9 and B10, Annex B.
- b) Type 2 - Horizontal, Angle, and Vertical Lift Check, Non-Metallic Disc to Metal Seat Figs. B11 & B12, Annex B.
- c) Type 3 - Swing Check, Metal Disc to Metal Seat Fig. B13, Annex B.
- d) Type 4 - Swing Check, Non-Metallic Disc to Metal Seat Fig. B14, Annex B.

**1.3 *Nominal Pipe Sizes***

- a) Threaded Ends - NPS 1/8-3 (DN 6-80)
- b) Solder Ends - NPS 1/4-3 (DN 8-80)
- c) Flanged Ends - NPS 1/2-3 (DN 15-80)