



Standard Specification for Envelope Dimensions for Bronze Globe Valves NPS ¼ to 2¹

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1. Scope

1.1 This specification provides standard dimensions for small bronze globe valves (NPS ¼ to 2) installed in shipboard piping systems.

1.2 This specification covers valves of a nominal pipe size from NPS ¼ to 2 with threaded and brazed end connections. The valves are in accordance with MSS-SP80, Class 200.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ANSI Standard:*²

B2.1 Pipe Threads (Except Dryseal)

¹ This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.11 on Machinery and Piping Systems.

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² Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

2.2 *Manufacturer's Standardization Society of the Valve and Fittings Industry Standard:*³

SP80 Bronze Gate, Globe, Angle and Check Valves

3. Materials and Manufacture

3.1 Threaded end connections shall be in accordance with ANSI B2.1. Brazed end connections shall be in accordance with **Table 1**.

4. Dimensions

4.1 Valve dimensions for both threaded- and brazed-type end connections are provided in **Fig. 1**.

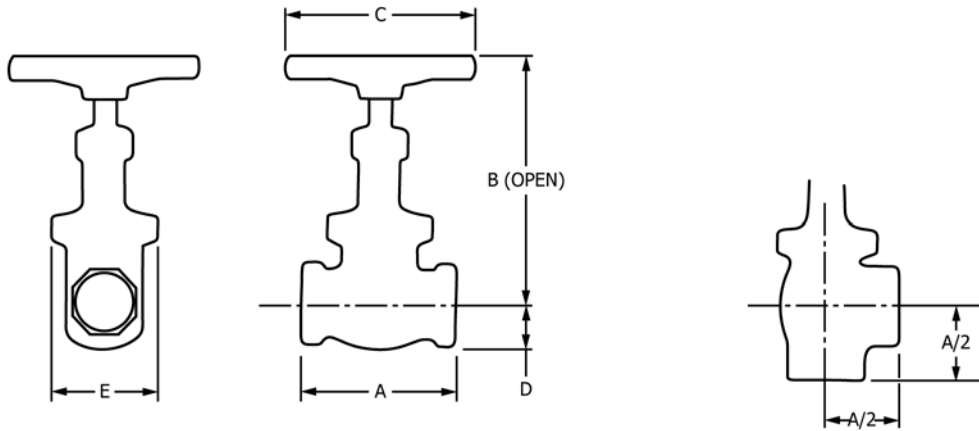
5. Tolerances

5.1 A plus or minus tolerance of 1/32 in. (0.8 mm) shall be allowed on all dimensions that do not have a maximum or minimum specified.

6. Keywords

6.1 brazed connection; bronze globe valve; envelope dimension; globe valve; marine technology; ship

³ Available from Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), 127 Park St., NE, Vienna, VA 22180-4602, <http://www.mss-hq.org>.



Valve Size –NPS	A End to End, in. (mm)	B Pipe Centerline to Valve Top, Maximum, in. (mm)	C Maximum Handwheel Size, in. (mm)	D Pipe Centerline to Valve Bottom, Maximum, in. (mm)	E Maximum Width, in. (mm)	Nominal Weight, lb (kg)
1/4	2 1/4 (57)	4 5/8 (118)	2 1/2 (64)	3/4 (19)	1 1/2 (38)	1 (0.5)
3/8	2 1/4 (57)	4 5/8 (118)	2 1/2 (64)	3/4 (19)	1 1/2 (38)	1 (0.5)
1/2	2 1/2 (64)	5 1/4 (134)	3 1/4 (83)	7/8 (22)	2 (51)	1.5 (0.7)
3/4	3 1/8 (80)	6 1/8 (156)	4 1/2 (114)	1 (25)	2 1/2 (64)	2.5 (1.1)
1	3 3/4 (95)	7 7/16 (189)	4 1/2 (114)	1 1/4 (32)	2 3/4 (70)	4 (1.8)
1 1/4	4 1/4 (108)	8 (203)	5 3/8 (137)	1 1/2 (38)	3 1/4 (83)	6 (2.7)
1 1/2	4 3/4 (121)	8 5/8 (219)	5 3/8 (137)	1 3/4 (44)	3 3/4 (95)	7 (3.2)
2	5 3/4 (146)	10 1/8 (257)	5 3/4 (146)	2 (51)	4 3/4 (121)	12 (5.5)

FIG. 1 Envelope Dimensions—Thread and Braze End Connections

TABLE 1 Brazed End Connection Dimensions

Valve Size – NPS	Depth of Socket, in. (mm)	Diameter of Socket, in. (mm)	
		Minimum	Maximum
1/4	1 7/64 (7)	0.540 (13.72)	0.543 (13.79)
3/8	5/16 (8)	0.675 (17.15)	0.678 (17.22)
1/2	3/8 (10)	0.840 (21.34)	0.843 (21.41)
3/4	13/32 (10)	1.050 (26.67)	1.053 (26.74)
1	7/16 (11)	1.315 (33.40)	1.318 (33.48)
1 1/4	1/2 (13)	1.660 (42.16)	1.663 (42.24)
1 1/2	5/8 (16)	1.900 (48.26)	1.905 (48.39)
2	2 1/32 (17)	2.375 (60.33)	2.380 (60.45)

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirements shall apply only when specified by the purchaser in the inquiry, contract, or order.⁴

⁴ The Supplementary Requirements shall be deleted two years from the approved date of the current edition of this specification.

S1. Permissible Variations

S1.1 The permissible variations in Dimension A of Fig. 1 are shown in Table S1.1. The permissible variations in the centerline to end dimensions for angle valves shall be one half the values specified in Table S1.1. The tolerance specified in 5.1 may be added to or deducted from Dimension ‘A’ after the permissible variation is applied.

TABLE S1.1 Permissible Variation in Dimension ‘A’

Valve Size – NPS	Variation, in. (mm)
1/4 – 3/4	± 3/8 (10)
1 – 1 1/4	± 7/16 (11)
1 1/2	± 9/16 (14)
2	± 3/4 (19)