



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.

2. Referenced Documents

2.1 *ASTM Standards:*

B2.1 Pipe Threads (Except Dryseal)²

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

SP80 Bronze Gate, Globe, Angle and Check Valves³

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.

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, 25 W. 43rd St., 4th Floor, New York, NY 10036.

³ Available from Manufacturer's Standardization Society of the Valve and Fitting Industry, 1815 N. Fort Myer Dr., Arlington, VA 22209.

TABLE 1 Brazed End Connection Dimensions

Valve Size – NPS	Depth of Socket, in. (mm)	Diameter of Socket, in. (mm)	
		Minimum	Maximum
¼	¹⁷ / ₆₄ (7)	0.540 (13.72)	0.543 (13.79)
⅜	⁵ / ₁₆ (8)	0.675 (17.15)	0.678 (17.22)
½	³ / ₈ (10)	0.840 (21.34)	0.843 (21.41)
¾	¹³ / ₃₂ (10)	1.050 (26.67)	1.053 (26.74)
1	⁷ / ₁₆ (11)	1.315 (33.40)	1.318 (33.48)
1¼	½ (13)	1.660 (42.16)	1.663 (42.24)
1½	⁵ / ₈ (16)	1.900 (48.26)	1.905 (48.39)
2	²¹ / ₃₂ (17)	2.375 (60.33)	2.380 (60.45)

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

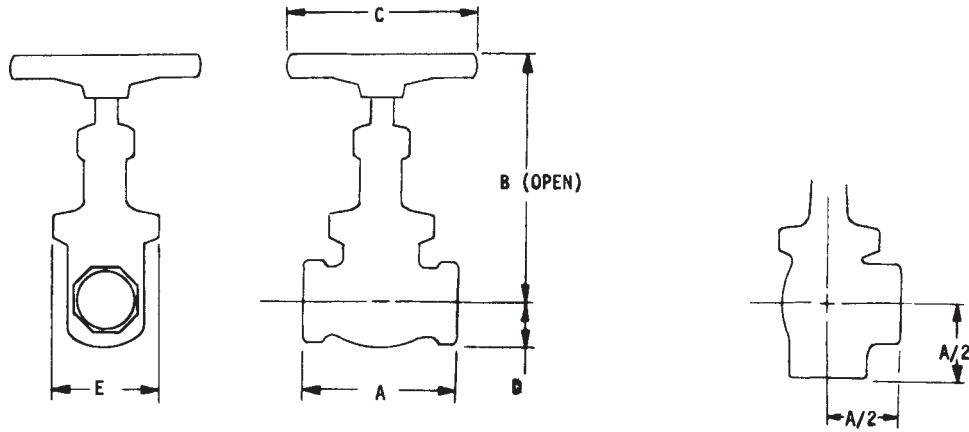


TABLE 1 Continued

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)
¼	2¼ (57)	4⅝ (118)	2½ (64)	¾ (19)	1½ (38)	1 (0.5)
⅜	2¼ (57)	4⅝ (118)	2½ (64)	¾ (19)	1½ (38)	1 (0.5)
½	2½ (64)	5¼ (134)	3¼ (83)	⅞ (22)	2 (51)	1.5 (0.7)
¾	3⅝ (80)	6⅝ (156)	4½ (114)	1 (25)	2½ (64)	2.5 (1.1)
1	3¾ (95)	7⅞ (189)	4½ (114)	1¼ (32)	2¾ (70)	4 (1.8)
1¼	4¼ (108)	8 (203)	5⅝ (137)	1½ (38)	3¼ (83)	6 (2.7)
1½	4¾ (121)	8⅝ (219)	5⅝ (137)	1¾ (44)	3¾ (95)	7 (3.2)
2	5¾ (146)	10⅝ (257)	5¾ (146)	2 (51)	4¾ (121)	12 (5.5)

FIG. 1 Envelope Dimensions—Thread and Braze End Connections

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)
¼–¾	±¾ (10)
1–1¼	±⅞ (11)
1½	±⅞ (14)
2	±¾ (19)



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