

ANSI/MSS SP-144-2020



Pressure-Seal Bonnet Valves

Standard Practice
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Substantive changes in this 2020 edition are "flagged" by parallel bars as shown on the margins of this paragraph. The specific detail of the change may be determined by comparing the material flagged with that in the previous 2013 edition.

Non-toleranced dimensions in the Standard Practice are nominal unless otherwise specified.

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Originally Approved by MSS: September 2012
Originally Published by MSS: February 2013
Original ANSI/MSS Edition Approved by ANSI: October 2015
Original ANSI/MSS Edition Published by MSS: October 2015
Current Edition Approved by MSS: April(August) 2019
Current ANSI/MSS Edition Approved by ANSI: July 2020
Current ANSI/MSS Edition Published by MSS: July 2020

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Manufacturers Standardization Society of the Valve and Fittings Industry

PRESSURE-SEAL BONNET VALVES

1. SCOPE

1.1 This Standard Practice covers construction requirements for steel and alloy valves having pressure-seal bonnets in the size range of NPS 2 (DN 50) through NPS 50 (DN 1250) and Pressure Classes 600, 900, 1500, 2500, and 4500. This Standard Practice applies to gate, globe, and check valves and may be used in conjunction with other valve-specific standards; including the following identified in this Standard Practice as parent valve standards:

API 594, Check Valves; Flanged, Lug, Wafer, and Butt-Welding

API 600, Steel Gate Valves – Flanged and Butt-Welding Ends, Bolted Bonnets

API 603, Corrosion-Resistant, Bolted Bonnet Gate Valves – Flanged and Butt-Welding Ends

API 623, Steel Globe Valves – Flanged and Butt-Welding Ends, Bolted Bonnets

ASME B16.34, Valves-Flanged, Threaded, and Welding End

1.2 For parent valve standard, API 600, this Standard Practice covers two styles of pressure-seal bonnet valves as follows:

a) Style A valves in accordance with API 600, except modified with ASME B16.34 minimum wall thicknesses, smaller diameter seats and stems, and pressure-seal bonnet requirements of this Standard Practice.

b) Style B valves in accordance with API 600, except as modified for pressure-seal bonnet requirements of this Standard Practice.

1.3 Except for the requirements for modification to pressure-seal bonnets and Style A gate valve modifications, and Style B gate valve specific details, the requirements of this Standard Practice are not intended to replace requirements of the parent valve standard. In the event of a discrepancy between this Standard Practice and a governing normative standard affecting valve construction besides the pressure seal, then the governing normative standard shall take precedence.

1.4 Stop check valves shall be constructed to the requirements of a globe valve parent valve standard except as modified for pressure-seal bonnet requirements of this Standard Practice.

1.5 This Standard Practice includes additional construction detail requirements specifically related to parent standard valves modified with pressure-seal bonnets.

1.6 Annex A illustrates pressure-seal bonnet gate valves (see Figure A1) and details a typical pressure-seal bonnet (see Figure A2) for the purposes of identifying nomenclature and valve parts utilized in this Standard Practice.

2. DEFINITIONS

2.1 **General** Definitions given in MSS SP-96 apply to this Standard Practice.

2.2 **Construction** An all-inclusive term comprising materials, design, fabrication, examination, testing, inspection, and certification required in the manufacture and installation of a valve.

2.3 **Parent Valve Standard** This Standard Practice endorses the referenced valve standard construction requirements but has additional construction detail requirements not addressed by the referenced “parent” valve standard.