

## MSS SP-42-2009

# Corrosion Resistant Gate, Globe, Angle and Check Valves with Flanged and Butt Weld Ends (Classes 150, 300 & 600)

Standard Practice  
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This MSS Standard Practice was developed under the consensus of the MSS Technical Committee 114 and the MSS Coordinating Committee. The content of this Standard Practice is the result of the efforts of competent and concerned volunteers to provide an effective, clear, and non-exclusive specification that will benefit the industry as a whole. This MSS Standard Practice is intended as a basis for common practice by the manufacturer, the user, and the general public. The existence of an MSS Standard Practice does not in itself preclude the manufacture, sale, or use of products not conforming to the Standard Practice. Mandatory conformance is established only by reference in a code, specification, sales contract, or public law, as applicable.

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 B.)

This document has been substantively revised from the previous 2004 edition. It is suggested that if the user is interested in knowing what changes have been made, direct page by page comparison should be made of this document.

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## CORROSION RESISTANT GATE, GLOBE, ANGLE AND CHECK VALVES WITH FLANGED AND BUTT WELD ENDS (CLASSES 150, 300, & 600)

### 1. SCOPE

1.1 This Standard Practice covers Classes 150, 300 and 600 corrosion resistant alloy gate, globe, angle and check valves with flanged and butt weld ends which are constructed of pressure containing parts, including materials that conform to ASME B16.34.

1.2 This Standard Practice covers additional construction requirements for corrosion resistant valves not covered by ASME B16.34. Such valves are made from corrosion resistant alloys whose properties are uniquely suited to the service into which they are placed. Chemical process and cryogenic fluid service constitute two such applications.

#### 1.3 *Valve Types and Sizes*

1.3.1 *Types* The following valve types are covered herein and are illustrated in Figures A1 through A8 in Annex A<sup>(a)</sup>.

- Gates, outside screw and yoke design (OS&Y)
- Globes, T, and Y-pattern, outside screw and yoke (OS&Y)
- Angle, outside screw and yoke (OS&Y)
- Checks, lift, swing and Y-pattern

1.3.2 *Nominal Pipe Sizes* Gate, Globe, Angle, and Check Valve sizes covered by this Standard Practice are as follows:

$$1/2 \leq \text{NPS} \leq 24 \quad (15 \leq \text{DN} \leq 600)$$

Notes:

<sup>(a)</sup> The valve sketches in Annex A are for the purpose of illustration and nomenclature only. They do not represent any manufacturer's product.

### 2. STANDARD UNITS

The values stated in either U.S. customary units or metric units are to be regarded separately as the standard. Within the text, the metric units are shown in parentheses. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in nonconformance with this Standard Practice.

### 3. MATERIALS

3.1 *General* The specified body, bonnet or cover plate material shall be produced in accordance with the applicable ASTM Specification listed in ASME B16.34, Table 1, Materials Group 2 or 3. Users are cautioned against applications with fluid which may react harmfully with any materials used in these valves. Consultation with the manufacturer is advised to determine suitability in cases of doubt.

3.2 *Castings* Bodies, bonnets and cover plates shall be made of materials conforming to the requirements of specifications listed in ASME B16.34, Table 1. All castings shall be clean, sound and shall be produced to the quality level represented by MSS SP-55.

3.3 *Investment Castings* When investment castings are used for bodies, bonnets, or cover plates of valves in sizes NPS 4 (DN 100) and smaller, the requirements of the ASTM specifications referred to in ASME B16.34, Table 1, shall be met except that it is permissible to determine mechanical and chemical properties from a master heat and to use a 1 inch gauge length x 0.25 inch diameter (25mm gauge length x 6.25mm diameter) tensile specimen in place of the standard 2-inch (62.5mm) tensile specimen. A master heat is previously refined metal of a single furnace charge. Tensile specimens shall be cast in molds of the same refractory as the casting and shall be heat treated with the casting.