

**MSS SP-67-2011**

# Butterfly Valves

**Standard Practice**  
Developed and Approved by the  
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**This Standard Practice has been substantially revised from the previous 2002a 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 and that of the previous edition.**

Non-toleranced dimensions in this Standard Practice are nominal, and, unless otherwise specified, shall be considered “for reference only”.

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## BUTTERFLY VALVES

### 1. SCOPE

1.1 This Standard Practice covers dimensions, design, testing, and marking requirements for butterfly valves. Further reference should be made to the MSS SP-68.

1.2 This Standard Practice covers two types of butterfly valves:

Type I – Valves for tight shut-off  
(Tested per Section 10.2.1)

Type II – Valves permitting seat leakage  
(See Section 10.2.2)

1.3 This Standard Practice covers flangeless (wafer-type), single flange (lug-type), and flanged end valves in size NPS 1½ through NPS 72, along with grooved end valves, and shouldered end valves, with pressure ratings in accordance with the requirements of Sections 3 and 4.

### 2. DEFINITIONS

2.1 **Face-to-Face of Valve before Installation** This is the dimension of the valve face-to-face before it is installed in the pipe line. It does not include the thickness of gaskets if separate gaskets are used. It does include the thickness of gaskets or seals that are an integral part of the valve and this dimension is before these gaskets or seals are compressed.

2.2 **Face-to-Face of Valve Installed** This is the dimension of the valve face-to-face after it is installed in the pipe line. It does not include the thickness of gaskets if separate gaskets are used. It does include the thickness of gaskets or seals that are an integral part of the valve, however this dimension is established with the gaskets or seals compressed. See Figure 1A, 1B, 1C, and Table 3.

2.3 **Face-to-Face of Valve and Gaskets Installed** This is the dimension of the valve face-to-face including separate gaskets when installed in the pipe line.

This dimension must be established using the thickness of the valve face-to-face dimension and the compressed thickness of the gaskets to be used in such installations.

2.4 **CWP - Cold Working Pressure (PSIG)** The pressure rating for the pressure containing components of the valve at temperatures up to and including 100 °F.

2.5 **System Pressure** Maximum specified operating pressure for the application.

2.6 **Differential Pressure** The difference in pressure between two points located on opposite sides of the valve disc.

2.7 **Shut-Off Pressure** The maximum rated differential pressure with the valve in the fully closed position.

### 3. STANDARD ENDS

3.1 **Flanged Ends** Valves shall be compatible for use with flanges to ASME B16.1 Class 25 or 125, ASME B16.5 Class 150, ASME B16.47 Class 150 Series A, ASME B16.24 Class 150, ASME B16.42 Class 150, or AWWA C207. Figure 2 illustrates bolting options.

3.2 **Single Flange (Lug-Type)** Valves shall be compatible for use with flanges to ASME B16.1 Class 25 or 125, ASME B16.5 Class 150, ASME B16.24 Class 150, ASME B16.42 Class 150, or AWWA C207. Figure 3 illustrates bolting options.

3.3 **Flangeless (Wafer-Type)** Valves shall be compatible for use with flanges to ASME B16.1 Class 25 or 125, ASME B16.5 Class 150, ASME B16.24 Class 150, ASME B16.42 Class 150, or AWWA C207. Figure 4 illustrates bolting options.

3.4 **Grooved Ends** Valve ends shall conform to AWWA C606.