

## Tested to Work Under Pressure

Operating pressure limits and valve testing procedures is a source of routine questions for many Milwaukee Valve customers. Often these questions arise as a contractor is performing a system test, per the engineer's or building owner's specification/direction. Most of these inquiries relate to resilient-seat butterfly valves.



There are two standards that cover our iron butterfly valves. MSS SP-67 (Butterfly Valves) and API 609 Category A (Butterfly Valves: Double-Flanged, Lug- and Wafer-type). MSS stands for Manufacturer's Standardization Society and API stands for American Petroleum Institute.

These pressure tests take on two forms; a shell test, and a seat or closure test. For the purposes of this example, we will use a ML233E in 8" size as the example. The published Cold Working Pressure rating for a ML233E is 200 psig.

First the shell test:

The shell test confirms the integrity of the valve body. The valve is checked for defects by hydrostatic pressure at 1.5 times the rated Cold Working Pressure. For the ML233E with a CWP of 200 psig, that means that the valve is tested to 300 psig. In order to pass the test, there must not be any leaking through pressure boundary walls or any fixed body joint.



Then the seat (or closure) test:

Once the shell test is complete, Milwaukee Valve then closes the butterfly valve while still in the testing fixture. The hydrostatic pressure is measured on both sides of the sealed disk to be sure that there are no leaks, either across the seat or at the stems. For the seat test, MSS only requires that the test be performed at the rated pressure of the valve, 200 psig. In the case of API 598, a high-pressure closure test is performed. This is at 1.1 times the rated working pressure, or 220 psig.



Even though every valve is tested to elevated pressures, the rated working pressure of all Milwaukee Valve resilient-seated butterfly valves is clearly stated on the individual valve's specification sheet, which can be downloaded [HERE](#). Any field testing that exposes the valve to pressures beyond the rated pressure will void the Milwaukee Valve factory warranty.

For any questions, please contact your Milwaukee Valve representative or regional manager. Get complete specs and features for all Milwaukee Valve products at [www.MilwaukeeValve.com](http://www.MilwaukeeValve.com).



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