

AWWA C516, Proof of Design - Performance & Hydrostatic Test Certification

108" 150B Resilient-Seated Butterfly Valves

1. ITEM TESTED:

108" 150B Val-Matic model 20108 resilient-seated butterfly valve, with 108" integrally-cast end flanges drilled in accordance with AWWA C207 Class D, ductile iron body and disc construction, welded nickel overlay body seat, 17-4PH stainless steel shafts, fiberglass-backed Teflon-lined bearings, EPDM seat and packing. Valve actuated by a Val-Matic LSG-8A traveling nut actuator fitted with a Limitorque L120 electric motor actuator.

2. PURPOSE:

Perform the Section 5.2.1 (Performance testing) and Section 5.2.2 (Hydrostatic testing) portions of the Proof of Design Test in American Water Works Association Standard AWWA C516-14, Larger-Diameter Rubber-Seated Butterfly Valves.

3. RECORD OF TEST:

Upon the conclusion of the proof of design cycle test (see Drawing SS-4178), the two ductile iron blind flanges were removed from either side of the valve, with the pipe axis and shaft axis still oriented horizontally. In this orientation, the valve was cycled 90° from the fully-closed position to the fully-open position and back again three separate times. After these three full cycles, with no change to orientation of the valve, the blind flanges were bolted back onto the valve. After filling both sides of the valve with water, the disc was moved to the fully-closed position and a pressure of >150 psig was applied to one side of the disc with leakage measured via a standpipe on the other side. After a period of 15 minutes, the valve was found to be drop tight. The same test was then repeated in the opposite direction with the same results.

With the valve oriented with its flanges horizontal (pipe axis vertical), bolted atop one of the blind flanges, and the seat side facing upward and exposed to atmosphere, water pressure was applied opposite side. Pressure was added slowly in 25 psi increments until a pressure of 300 psig was applied and held for a period of > 60 minutes, before being slowly removed. As a special provision, silicone sealant had been applied along the circumference of the valve seat to prevent excessive leakage past the seat during the test. Afterwards, the valve was inverted, and the same procedure was performed in the other direction.

Following these tests, the valve was disassembled and examined for damage and wear. No packing or shaft surface wear was observed, and the shaft and thrust bearing components were not bent or otherwise damaged. The journal bearings and body seating surface showed no signs of extensive wear, cracking, or failure. No permanent deformation was detected in the disc or body.

4. CERTIFICATION:

Based on the above Test Record, we hereby certify that the subject valve has passed the Proof of Design Performance and Hydrostatic Tests, and that in combination with the Proof of Design Cycle Test Record Certified on Drawing Number SS-4178, fully qualifies this 108" 150B butterfly valve design. A representative of Lockwood, Andrews & Newnam, Inc. (LAN), an independent engineering consulting firm, witnessed the tests.

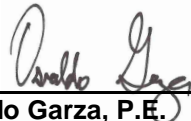
Certified by:



Timothy M. O'Shea, P.E., Engineering Project Manager
Val-Matic Valve & Manufacturing Corp.

DATE: 11-26-2019

Witnessed by:



Osvaldo Garza, P.E.
Lockwood, Andrews and Newnam, Inc.

DATE: 11-26-2019

108" 150B BUTTERFLY VALVE PROOF OF DESIGN
PERFORMANCE & HYDROSTATIC TEST CERTIFICATION

DATE
11-26-2019



VALVE AND MANUFACTURING CORP.

DRWG. NO.

SS-4179