Product Test Report

PTR-5021

Swagelok Company
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Solon, Ohio 44139 U.S.A.

Ver 02
August 2023

TITLE

Gas Seat Test and Hydrostatic Shell Test of Swagelok® 8GB and 16GB Series General Service Ball Valves

PRODUCT TESTED

(5) SS-8GBS8
(5) SS-16GBF12

PURPOSE

This test was performed to observe the seat and shell seal pressure performance of the GB series ball valve under laboratory conditions.

TEST CONDITIONS

Test media: nitrogen and water
Test temperature: 70°F (20°C)
Cold Working Pressure (CWP): 6000 psig (413 bar)
Acceptance criteria:
Seat – no visible leakage with valve submerged in water
Shell – no visible leakage

TEST METHOD

1. All test valves were assembled according to standard Swagelok specifications.
2. The first test valve was connected to a nitrogen gas test apparatus and cycled to the closed position.
3. The inlet was pressurized to 80 psig (5.5 bar) nitrogen and held to check for seat leakage.
4. Inlet pressure was increased to 1.1 x CWP, 6600 psig (454 bar), and held for 1 minute to check for seat leakage.
5. The test valve was depressurized.
6. The nitrogen inlet supply line was replaced with a pressurized water supply line and the outlet end connection of the test valve was capped off.
7. The test valve handle was set to 45 degrees or half open.
8. Pressure was slowly increased and held to check for shell leakage at the following pressures:
   - 1.5 × CWP, 9000 psig (620 bar) for 30 seconds
   - 2.0 × CWP, 12 000 psig (826 bar) for 1 minute
9. Steps 2 through 7 were repeated for the remaining test valves.

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TEST RESULTS

Ordering Number	Working Pressure psig (bar)	Nitrogen Seat Test Results		Hydrostatic Shell Test Results	
		80 psig (5.5 bar)	6600 psig (454 bar)	9000 psig (620 bar)	12 000 psig (826 bar)
SS-8GBS8	6000 (413)	Pass	Pass	Pass	Pass
SS-16GBF12	6000 (413)	Pass	Pass	Pass	Pass

The tests were conducted beyond the product's recommended operating parameters and do not modify the published product ratings.

This test was performed to consider a specific set of conditions and should not be considered valid outside those conditions. Swagelok Company makes no representation or warranties regarding these selected conditions or the results attained. Laboratory tests cannot duplicate the variety of actual operating conditions. Test results are not offered as statistically significant. See the product catalog for technical data.

SAFE PRODUCT SELECTION

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.