

Test Procedures for Pressure Vacuum Breaker Assemblies using a Differential Pressure Gauge Test Kit

air inlet valve (PVBA)

Performance Criteria: The air inlet valve will initially open when the differential pressure in the body is no less than 1.0 psi above atmospheric pressure. The air inlet valve will also continue to open fully when water has drained from the body of the assembly.

Table B-3 DCVA/DCDA test reporting

Check valve #1 [≥ 1.0 psid]	Pressure drop:	___ . ___ psi
	Valve tight?	yes ____, no ____
Check valve #2 [≥ 1.0 psid]	Pressure drop:	___ . ___ psi
	Valve tight?	yes ____, no ____
Test cock #4 opened, metered moved?		yes ____, no ____
Detector meter reading: _____		

Test Objective, Method and Reporting Requirements: Determine the initial opening point of the air inlet valve using a differential pressure gauge test kit. This is accomplished by:

- Connecting the differential pressure gauge to the upstream side of the air inlet valve and holding the gauge at the centerline of the air inlet valve.
- Closing both shut-off valves on the PVBA to isolate pressure within the assembly.
- Slowly draining water pressure from the assembly.
- Observing the differential pressure gauge reading at the initial opening point of the air inlet valve.
- The initial opening point must be 1.0 psid or greater to pass.
- Closing the test kit valve and removing the hose from the test cock. As the assembly is drained through the open test cock, the air inlet valve should continue to open.
- When water has drained from the assembly, the air inlet must open fully.

Record on the test report form the initial opening psid value of the air inlet valve. Observe or note that the air inlet valve continued to fully open.

Check Valve (PVBA)

Performance Criteria: The check valve is internally loaded and drip tight in the normal direction of flow with 1.0 psid.

Test Objective, Method, and Reporting Requirements: Test the check valve for tightness in the direction of flow and determine the static pressure drop across the check valve using a differential pressure gauge test kit. This is accomplished by

- Connecting the differential pressure gauge to the upstream side of the check valve and holding the gauge at the centerline of test cock #2.
- Closing both shut-off valves on the PVBA to isolate the pressure within the assembly.
- Reducing water downstream of the check valve to atmospheric.
- Observing the differential pressure gauge reading.
- When water stops flowing from the assembly and the gauge reading stabilizes, the check valve should close tight at 1.0 psid or greater.

Record the differential pressure gauge reading on the test report form as the check valve pressure drop.

Observe and verify that the PVBA

- Is designated as an approved assembly by the administrative authority.
- Is properly installed 12 in. above the highest downstream outlet.
- Provides the correct protection for the potential hazard (the water supplier has the responsibility to verify the proper assembly was installed for protection from the degree of hazard).
- Is correctly installed with approved clearances for testing and maintenance.
- Test results are properly documented on a test report form:
 - Air inlet valve initially opens at 1.0 psid or greater and then continues to open fully.
 - Check valve holds tight at 1.0 psid or greater.