



**Summary of Substantive Changes
between the 2004 and 2011 editions of
ASSE 1019-2011, “Wall Hydrant with Backflow Protection
and Freeze Resistance”**

**(The 2004 edition of ASSE 1019 was entitled “Vacuum Breaker Wall Hydrant, Automatic
Draining Type”)**

Presented to the IAPMO Standards Review Committee on March 12, 2012

General: Additional testing for currently listed products might be required as a result of the changes to ASSE 1019. The major changes are:

- The description of the 3 types of devices was expanded: the number and types of mechanisms required for Type A, B, and C devices was increased (Section 1.2)
- Changed the flow requirement for NPHS-1/2 and NPHS-1 to 6 gpm (22.7 L/min) (Section 3.2 and Table 1)
- Added life cycle testing for devices with cold and hot water inlets (Section 3.4)
- Changed the bending test load position (Section 3.5)
- Clarified the orientation of the device for the low-head backpressure test (Section 3.7)
- Added a cross flow test for devices with cold and hot water inlets (Section 3.11)
- Revised the test set-up of the backsiphonage test (Section 3.12)

Section 1.2, Scope:

Section 1.2.1, Description:

- Increased the number of mechanisms from (2) to (3) for Type A and Type B devices and from (1) to (2) for Type C devices.
- Added the following mechanisms
 - for Type A, B and C devices, ...1) an air inlet for preventing backsiphonage...
 - for Type A and B devices, 3) a mechanism that relieves backpressure backflow.
- Additionally, Type B devices are required to have ...a mechanism that drains the water from the hydrant when the hose is attached and the hydrant is manually closed.

Section 3.1, Hydrostatic pressure test:

- Section 3.1.2, Procedure: Editorially revised this procedure. The referenced Figure 1 was removed.

Section 3.2, Water flow capacity: Changed the heading as follows; ~~Water Flow Capacity and Pressure Loss~~

- Section 3.2.1 Purpose: Changed the purpose as follows: ~~The purpose of this test is to determine the pressure losses at various rates of flows~~ device’s flow at a pressure drop of 25.0 psid (172.4 kPa).
- Section 3.2.2 Procedure: A single flow rate of 6.0 gpm (22.7 L/min) at a pressure differential of 25.0 psi (172.4 kPa) for the test is now required for all sizes. Previous minimum flow rates were 3.0 gpm (0.2 L/s) for NPHS-1/2 and 12.0 gpm (0.8 L/s) for NPHS 1.



Section 3.3, Deterioration at maximum rated temperature and pressure:

- Section 3.3.2, Procedure: Changed the minimum flow rates formerly specified in Table 1 as follows ...at a flow rate ~~per Table 1 of 6.0 GPM ± 0.5 GPM (22.7 L/m ± 1.9 L/m)~~. The reference to Figure 2 was removed.

Section 3.4, Life cycle evaluation:

- Section 3.4.2, Procedure: The devices were separated into devices with only a cold water inlet only and devices with both cold and hot water inlets. A new procedure was added for testing devices with two inlets.
- 3.4.2.1 Dwell time: Added the cycle for devices with both cold and hot water inlets, and added the option to adjust devices with an adjustable stem if stem leakage is noted during the test.
- 3.4.2.2 Criteria: Added failure criteria for devices with an adjustable stem.

Section 3.5 Resistance to bending:

- Section 3.5.2, Procedure: The o-ring seal and test mandrel attachment were added and the position of the load application was moved to a distance of 1 in from the device outlet.

Figure 1: This was formerly Figure 3 and it was editorially revised.

Section 3.6 Self-draining capabilities:

- Section 3.6.2 Procedure: Specified a supply pressure of 25.0 +5.0, -0.0 psi (172.4 + 34.5, -0.0 kPa) and the hose length of 36.0 in (914.4 mm).
- Section 3.6.3 Criteria: Changed the failure criteria from ~~Failure of the ...device to discharge 3.0 gallons (11.4 liters) of water...~~ to Failure of the device to flow water shall result in a rejection of the device.

Figure 2: This was formerly figure 4 and it was editorially revised.

Section 3.7 Low Head Backpressure:

- Section 3.7.2, Procedure: Specified the orientation of the device for testing to ...its normal operating position except with the body of the device horizontal... and added provisions for mixing type devices. ~~Figure 5~~ was removed.

Section 3.8 Outlet pressure release for Type A and Type B devices: Changed the heading as follows: ~~Atmospheric Vent Opening~~ Outlet Pressure Release for Type A and Type B Devices

Figure 3: This was formerly Figure 6 and it was editorially revised.

Section 3.11 Cross Flow Test (Mixing Hydrant Only): This test was added

Section 3.12, Backsiphonage:

- Section 3.12.2, Procedure: Added requirements for the use of a vacuum gauge and its position, the quick acting valve actuation time, type of manometer and inside diameter of the sight glass



Figure 4: This was formerly Figure 7 and it was revised to include a vacuum gauge.

Section 3.12.3 Criteria: The allowable rise of water in the sight glass was increased from 1/8 to 3 in.

Section 4.1, Materials: Removed the requirements for corrosion of interior parts and springs, formerly Sections 4.1.1 and 4.1.2.

Section 4.3, Installation Instructions: The additional warning is now required with the installation instructions stating *"this ASSE 1019 device shall not be subjected to more than twelve (12) hours of continuous water pressure."*