

# ENGINEERING COMMUNIQUÉ

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FAMILY OF COMPANIES

**From:**

## THE SMITH ENGINEERING GROUP

### PRODUCT ALERT: Hydrants

A request was made to explain the differences between the ASSE Standards 1011, 1019, 1052, and 1053.

ASSE 1011 – Hose Connection Vacuum Breakers

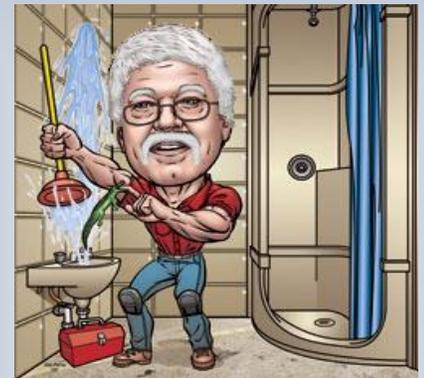
ASSE 1019 – Vacuum Breaker Wall Hydrants, Freeze Resistant,  
(Type A, B, C) Automatic Draining Type

ASSE 1052 – Hose Connection Backflow Preventer

ASSE 1053 – Double Check Backflow Prevention, Wall Hydrants,  
Field Testable

When observing a hydrant which may have any of these designations listed, it indicates the unit has been tested at a recognized and listed third party testing laboratory who certifies the product conforms to the requirements of the referenced standard. Some products may not meet certain parts of the standard or have not been tested by a third party laboratory, therefore; cannot display the standard designation on the face of the product.

ASSE 1011: This strictly refers to the vacuum breaker you will see on many hydrants and hose bibs. It does not matter whether it is integral or an add-on as long as it contains the 1011 designation. Again, the 1011 is in reference to the vacuum breaker and not the hydrant. Many codes require hose bibs to have vacuum breakers even after installation. Most vacuum breakers will prevent the hydrant from self draining so the disc and/or diaphragm may need manipulating to drain any water captured in the hydrant after shutting it off to avoid the hydrant from freezing. There are types available with automatic drainage features. Some vacuum breakers are removable while some are permanently attached.



### Grease Interceptor Flow Control Fitting

A flow control is the 'SAFETY VALVE' on grease interceptors designed with an external flow control. Controlled flow rate to an interceptor is essential to obtain the 90% or better efficiency rating required to pass the PDI-G101 Standard testing criteria. The flow control will limit the rate of flow and protects against overloading the unit to insure maximum efficiency and economy.

The flow control device is constructed with a 'vented orifice' or more appropriately referred to as an 'air intake', with the chamber on the downstream side of the orifice ported to the open air. Grease laden waste water passes thru the vented flow control device on its way to the interceptor. As the waste water passes thru the flow control, air is drawn in thru the vent (air intake). The entrained air remains with the waste water until it enters the grease interceptor. Upon entering the unit, the waste water is directed thru the separation chamber (baffle chamber) and the entrained air rises thru the grease laden waste water quickly. As it does so, it accomplishes two things;

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**ASSE 1019:** This standard establishes design and performance requirements for wall hydrants (devices). These wall hydrants shall be freeze resistant, automatic draining, and contain an integral and permanent device to prevent backflow due to backsiphonage, backpressure or both.

There are three classifications hydrants can be classified under this standard.

(a) Type A devices protect against backsiphonage and backpressure and contain not less than two mechanisms (at least one mechanism shall be a check) to protect and relieve backpressure. The hose shall be removed to prevent damage from freezing.

(b) Type B devices protect against backsiphonage and backpressure and contain not less than two mechanisms (at least one mechanism shall be a check) to protect and relieve backpressure. The hose need not be removed to prevent damage from freezing.

(c) Type C devices protect against backsiphonage and backpressure and contain not less than one mechanism to protect against backpressure. The hose shall be removed to prevent damage from freezing.

**ASSE 1052:** This standard establishes design requirements, basic performance requirements and test procedures for hose connection backflow preventers (devices). This device is designed to be installed on the discharge side of a hose threaded outlet on a potable water system. This two-check device protects against backflow, due to backsiphonage or low-head backpressure and is field testable to certify protection under the high hazard conditions present at a hose threaded outlet. These devices shall not be subjected to continuous water pressure.

**ASSE 1053:** This standard establishes design and performance requirements and test procedures for Dual Check Backflow Preventer Wall Hydrants-Freeze Resistant (devices). The purpose of these devices is to provide protection of the potable water supply from contamination due to backsiphonage or backpressure without damage to the device due to freezing and is field testable to verify protection under the high hazard conditions present at a hose threaded outlet. These devices shall not be subjected to continuous water pressure. Basically, the 1053 is a combination of both the 1019 and 1052 standards.

ASSE reviews each standard every five years. At this time they are re-affirmed with no changes or a committee is formed to appraise suggested changes and revisions. Presently, committees have been formed to start this process for three standards. These are Standards 1011, 1010 - Water Hammer Arresters and 1057 – Sanitary Yard Hydrants. Smith will be represented on each committee.

first, the escaping air accelerates separation of grease as it rises rapidly to the surface of the water in the separation chamber. The rising air bubbles literally pull the grease globules to the top of the water. Second, the released air provides a small amount of positive pressure above the contents of the separation chamber to regulate the internal running water level of the grease interceptor. Therefore, the flow control does more than control the flow. It also is instrumental in enhancing the separation process and efficiency of the interceptor.