ASSE Standard #1011-2004

ASSE Board Approved: February 2004

ASSE International

Performance Requirements for

Hose Connection Vacuum Breakers

General Information

No product may be said to be ASSE approved unless the manufacturer has applied to the ASSE has had his product tested according to the applicable ASSE Standards, and when the product has passed the test, displays the ASSE Seal on the product.

Instructions for receiving the authorization to display the Seal are available from ASSE's International Office. Organizations wishing to adopt or list any ASSE Standard should print the ASSE Standard number on the cover page first and in equal or larger type to that of the adopting or listing organization.

ASSE International
Mokena, Illinois

Foreword

This foreword shall not be considered a part of the standard, however, it is offered to provide background information.

ASSE Standards are developed in the interest of consumer safety.

ASSE International is dedicated to the preservation of public health and safety through its guiding principle “Prevention Rather Than Cure”.

The ASSE’s Standards Program systematically evaluates new technologies through a formal request, and addresses the development and promulgation of performance standards designed to safeguard public health and safety.

Standards for the performance of components of systems of plumbing are considered by ASSE International to be of great value in the development of improved plumbing systems for the increased protection of public health and safety.

Cross-connections between the potable water supply and a possible source of contaminated liquids in a plumbing system is a recognizable potential hazard to health and safety. Much research and educational work has been done by this Society in the search for adequate preventive means. There are many dangerous situations which have had little recognition. The ASSE is vigorously attacking these problems by creating performance standards for devices tailored to negate the conditions:

1) Which can cause the flow of contaminants into the potable water supply system.
2) Responsible for the flow of contaminants into the potable water supply system.

One of the many hazards which is generally ignored, is that created by connecting the common garden hose to the potable water supply by means of a hose threaded outlet. In this application, back-siphonage, due to the creation of a vacuum in the supply line, or back pressure, due to the terminal end of the hose being at an elevation above the hose connection of the system simultaneously with loss of supply pressure, can cause contaminants to flow into the potable supply. Another hazard is created by attaching insecticide or agricultural spraying devices and other types of dispensers containing toxic materials to the hose. All of these are highly dangerous conditions to which persons may be exposed unless means are applied to protect the potable water in the system.

This standard is tailored specifically for hose threaded outlet (hose bibb or sill cock) faucets in potable water supply systems. To be effective, this device must be so installed that the air ports cannot be submerged.

These performance criteria recognize and embrace the many conditions involved, the known causes, and essential preventive means disclosed by extensive laboratory and field research and experience. In its text are the essential performance criteria and test procedures designed to prove the capabilities of the devices to comply with this criteria.

Although many of the material specifications are detailed within Section IV of this Standards, it is the responsibility of the manufacturer to comply with the requirements of the Safe Drinking Water Act, United States Public Law 93-523.

The working group which developed this standard revision, was set up within the framework of the Product Standards Committee of ASSE International.

Recognition is made of the time volunteered by members of this working group and of the support of the manufacturers who also participated in the meetings for this standard.

The standard does not imply ASSE's endorsement of a product which conforms to these requirements.

Compliance with this standard does not imply acceptance by any code body.

Plumbing codes mandate how and where these devices are installed. However, this standard was promulgated using a specific set of installation requirements and conditions for the purpose of providing reasonable performance requirements and compliance testing.

It is recommended that these devices be installed consistent with local codes by qualified and trained professionals.

This standard was promulgated in accordance with procedures developed by the American National Standards Institute (ANSI).

This edition of the standard was approved by the ASSE Board of Directors.

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Hose Connection Vacuum Breakers

Section I

1.0 General

1.1 Application

Hose Connection Vacuum Breakers shall provide protection of the potable water supply against pollutants or contaminants that can enter the system through backpressure equal to from an elevated hose equal to ar leass than 10.0 feet (3.0 meters) in height [4.3 psi (29.9 kPa)] and backsiphonage through the hose threaded outlets.

1.2 Scope

1.2.1 Description

This standard applies only to those devices classified as Hose Connection Vacuum Breakers which are designed to be installed on the discharge side of the hose bibb, hydrant or faucet which is fitted with hose threads. The design embraces a check valve member force loaded, or biased, to a closed position, and an atmospheric vent valve, force loaded, or biased, to an open position when the device is not under pressure. This device shall not be subjected to more than twelve (12) hours of continuous water pressure. This device shall only be used on systems where the only source of low head back pressure comes from an elevated hose equal to or less than 10.0 feet (3.0 meters) in height.

1.2.2 Sizes

Sizes shall include 1/2 NPHS, 3/4 NPHSand 1 NPHS male hose threaded outlets.

1.2.3 Pressure

The devices shall be designed for a minimum working pressure of 125.0 psi (861.9 kPa).

1.2.4 Temperature Range

The devices shall be designed for flow temperatures of 33.0 °F to 180.0 °F (0.6 °C to 82.2 °C).

1.2.5 Mechanical Function

1.2.5.1 Atmospheric Vent

(a) The atmospheric vent shall be open when the supply pressure is at atmospheric as defined in Section 3.7.
(b) The atmospheric vent shall open when subjected to conditions defined in Section 3.9.
(c) The atmospheric vent ports shall be of a size that can not be threaded for iron pipe size or connected with tubing either internally or externally.