ASSE Standard #1052-2016

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ANSI Approved: June 6, 2016

ASSE International

Performance Requirements for

Hose Connection Backflow Preventers

An American National Standard

General Information

No product may be said to be listed by ASSE unless the manufacturer has applied to ASSE International, has had its product tested according to the applicable 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 the ASSE 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.”

Preventing the contamination of potable water in plumbing systems is a major objective of ASSE’s Standards Program. ASSE has addressed the need for backflow protection at hose threaded outlets, where attaching a common garden hose or utility hose may expose users to highly dangerous conditions. Hose threaded protective devices shall only be used on systems where the low-head backpressure does not exceed that generated by an elevated hose equal to or less than 10 feet (3.0 m) in height.

ASSE 1011, Performance Requirements for Hose Connection Vacuum Breakers, covers devices containing a single check valve and an atmospheric vent valve. This standard, ASSE 1052, focuses on devices containing two check valves, which are known as hose connection backflow preventers. Backsiphonage and backpressure protection are achieved by adding the safety factor of a second check valve to the protection already provided by ASSE 1011 – the single check hose bibb vacuum breaker.

The two check device:
- Meets the ASSE definition of a backflow prevention device;
- Provides protection against the high hazard conditions of backsiphonage and low-head backpressure; and
- Allows a field test to be performed.

It is essential that regular inspection and maintenance of backflow prevention devices be conducted in order to ensure that the devices are continuously in working condition to prevent backflow.

This standard is part of the “vacuum breaker group,” which includes:
- ASSE 1001, *Performance Requirements for Atmospheric Type Vacuum Breakers*;
- ASSE 1004, *Backflow Prevention Requirements for Commercial Dishwashing Machines*;
- ASSE 1011, *Performance Requirements for Hose Connection Vacuum Breakers*; and
- ASSE 1052, *Performance Requirements for Hose Connection Backflow Preventers*.

Not all devices are appropriate in all cases. On the next page, in Table A, there is a reference chart whereby the reader can find the most suitable standard for his or her needs.

TABLE A

ASSE Standard Number	Standard Name	Typical Use	Highlights	Types Within the Standard
1001	Atmospheric Type Vacuum Breakers	• Faucet with hose thread spout • Water closet fill valve	• Prevents backsiphonage: - Have its outlet open to atmosphere; - Not be subjected to backpressure; - Not be subjected to more than 12 hours of continuous water pressure	• Atmospheric type • Check valve member and an air vent that is normally closed when the device is pressurized
1004	Backflow Prevention for Commercial Dishwashers	Commercial dishwashers	• Prevent backsiphonage at high temperatures • No direct contact with washing fluid	• Air gap per ASME A112.1.3 • Atmospheric vacuum breaker per ASSE 1001 • Hose connection vacuum breaker per ASSE 1011 • Hose connection backflow preventer per ASSE 1052
1011	Hose Connection Vacuum Breakers	Hose connections, such as hose bibb, wall hydrant, yard hydrant	• Prevents backflow by use of a SINGLE CHECK valve • Prevents backsiphonage by use of AIR PORTS • Prevents backpressure by use of check valve, and relief of backpressure through air ports. i.e. relieves pressure in the hose. • Device is non removable and non-testable	Only one type
1052	Hose Connection Backflow Preventers	Hose connections, such as hose bibb, wall hydrant, yard hydrant	• Same as a 1011 device, except there are two check valves. One check valve holds the pressure in the hose. The Intermediate chamber between the check vales becomes atmospheric. • Device is non removable but is testable.	Only one type

TABLE B

Standard No.	Single Check	Dual Check	Air Ports	Backflow	Backsiphonage	Backpressure	Frost-Free	Removable	Testable	High Hazard
1001	N	N	Y	N	Y	N	N	N	N	Y
1004	ASME A112.1.3 air gap, ASSE 1001, 1011, or 1052 device is installed as a sub-assembly for backflow protection.									
1011	Y	N	Y	Y	Y	Y	N	N	N	Y
1052	N	Y	Y	Y	Y	Y	N	N	N	Y

ASSE International's Standards Program systematically evaluates new technologies through formal requests, and addresses the development and promulgation of performance standards, which are designed to safeguard public health and safety.

ASSE considers product performance standards to be of great value in the development of improved plumbing systems for the protection of public health and safety.

The ASSE International Product Standards Committee encourages manufacturers to participate in the development of performance requirement standards and testing procedures for their products. These standards have the consensus of manufacturers and others who have pertinent interests in plumbing systems, and are acceptable to this organization.

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 ASSE 1052 Working Group, which developed this standard revision, was set up within the framework of the ASSE International Product Standards Committee.

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

This standard does not imply ASSE International's endorsement of a product that 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 International Board of Directors on May 3, 2016 as an ASSE standard.

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Performance Requirements for **Hose Connection Backflow Preventers**

Section I

1.0 General

1.1 Application

This standard establishes design requirements, basic performance requirements and test procedures for hose connection backflow preventers (herein referred to as the “device”). 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. This device shall only be used on systems where there is low-head backpressure that does not exceed that generated by an elevated hose equal to or less than 10 feet (3.0 m) in height.

This device shall not be subjected to more than 12 hours of continuous water pressure.

1.2 Scope

1.2.1 Description

A hose connection backflow preventer shall consist of two independent checks, force loaded or biased to a closed position, with an atmospheric vent located between the two check valves, which is force loaded or biased to an open position, and a means for attaching a hose.

1.2.2 Size Range

The device shall have male hose threaded outlets sized ½ NPHS, ¾ NPHS or 1 NPHS. Hose threads shall conform to Standard ANSI/ASME B1.20.7. Inlets with hose threads shall be provided with a non-removable feature.

1.2.3 Pressure Range

The devices shall operate at pressures from 0 psi (0 kPa) to 125.0 psi (861.9 kPa).

1.2.4 Temperature Range

The devices shall operate at temperatures from 33.0 °F (0.6 °C) to 140.0 °F (60.0 °C).

1.2.5 Repairability

Devices shall be repairable.

1.3 Reference Standards

Reference to industry standards shall be the latest edition of the standards.