ASSE Standard #1056-2001

ASSE Board Approved: FEBRUARY 23, 2001

American Society of Sanitary Engineering

Performance Requirements for

Spill Resistant Vacuum Breakers

An American National Standard

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 Central 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.

American Society of Sanitary Engineering
Westlake, Ohio

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.

The American Society of Sanitary Engineering for Plumbing and Sanitary Research 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.

ASSE has long recognized the need for backflow protection against the condition known as “Back Siphonage”. ASSE Standard #1001 was developed for plumbing applications that were not under continuous pressure, but it was evident that systems under continuous pressure could effectively use a similar method of breaking a vacuum to prevent siphonage. This led to the development of ASSE Standard #1020.

It has since been recognized the Standard #1020 was developed anticipating outdoor applications. As a result of the specific requirements of the hydraulic operation of the air inlet vent in Standard #1020 water may discharge in its normal operation.

The development of ASSE Standard #1056 addressed specifically the indoor applications offering the same vacuum breaker capabilities of Standard #1020, but solving the problem of water discharge each time the device is pressurized. As with the Standard #1020 devices, backflow protection is achieved against backsiphonage by a check valve backed up with an air inlet vent that opens in response to a loss of supply pressure.

These ASSE Standard #1056 devices, when installed properly, are suitable for high hazard protection, but just as Standard #1001 and Standard #1020 are limited to back siphonage protection and are not to be used to protect against back pressure backflow.

Performance standards for systems and devices must be reviewed periodically and upgraded as research, field conditions and experience suggest. The policy of the American Society of Sanitary Engineering is to review each standard on a five year cycle for revisions or reaffirmation. Between such reviews, the Product Standards Committee works with interested groups in obtaining information for study and evaluation for acceptance in upgrading a standard.

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 the American Society of Sanitary Engineering.

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.

This 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.

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 on month day, year, as an ASSE standard.

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Section I

1.0 General

1.1 Application

Spill Resistant Vacuum Breakers (herein referred to as “device”) are installed in the potable water supply lines to prevent the backflow of non-potable material into the potable water supply caused by back-siphonage only. They are not for use in any system where back pressure is applied to the device. When the system is pressurized, the vent closes to prevent a flow through the upstream check valve, and to eliminate vent spillage.

1.2 Scope

1.2.1 Description

This standard applies only to those devices classified as Spill Resistant Vacuum Breakers - SVB. These devices are designed for installation in those portions of the domestic potable water systems that are normally under continuous pressure conditions.

The device includes one (1) check valve force-loaded closed and an air inlet vent valve force loaded open to atmosphere, positioned downstream of the check valve, and located between and including two (2) tightly closing shut-off valves and two (2) test cocks.

1.2.2 Size Range

The inlet and outlet nominal pipe sizes are 6 DN, 8 DN, 10 DN, 15 DN, 20 DN, 25 DN, 32 DN, 40 DN and 50 DN (1/8 NPS, 1/4 NPS, 3/8 NPS, 1/2 NPS, 3/4 NPS, 1 NPS, 1-1/4 NPS, 1-1/2 NPS, and 2 NPS).

1.2.3 Pressure

These devices are designed for a minimum working pressure of 1034 kPa (150 psi).

1.2.4 Temperature Range

These devices are designed for flow temperatures between 0.55 °C and 82.2 °C (33 °F and 180 °F).

1.3 Limitations on Design

1.3.1 Flow Capacity

The device shall meet, as a minimum, the flows specified in Table 3 at the maximum allowable pressure drop.