ASSE Standard #1050-2009

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American Society of Sanitary Engineering

Performance Requirements for

Stack Air Admittance Valves for Sanitary Drainage Systems

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 ASSE 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.

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.

ASSE considers product performance standards to be of great value in the development of improved plumbing systems.

AAVs open to the atmosphere when a negative pressure is created within the stack by flow of waste water, and are installed at the top of stacks to relieve the negative pressures in the DWV system. An AAV is a one-way valve designed to allow air to enter the plumbing drainage system when a negative pressure develops in the piping. The device shall be closed at zero differential pressure and under conditions of positive internal pressure.

See ASSE Standard #1051-year for the performance requirements for Fixture and Branch Type Air Admittance Valves for Sanitary Drainage Systems.

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).

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Performance Requirements for Stack Air Admittance Valves for Sanitary Drainage Systems

Section I

1.0 General

1.1 Application

Stack Air Admittance Valves (AAVs) for Sanitary Drainage Systems (herein referred to as “device”) are devices used in plumbing drainage systems to prevent the siphonage of water trap seals. These devices do not relieve back pressure; they only allow air to enter the system. These devices are designed to be installed on stacks where branches on multiple floors are connected. When these devices are installed in a building, there shall be at least one (1) open vent terminal to relieve positive pressure which extends to the atmosphere outside of the building serving the building drain on which these devices are installed.

1.2 Scope

1.2.1 Description

These devices consist of a one-way valve designed to allow air to enter the plumbing drainage system when a pressure less than atmospheric develops. The device closes and seals by gravity under zero (0) differential pressure (static condition) and under positive pressure. These devices prevent sewer gases from entering a building. The device consists of a hooded or shielded body which contains a movable sealing assembly which seats and seals air flow when closed and allows air to enter when open.

1.2.2 Temperature Range

These devices shall function at temperatures from -40.0°F to 150.0°F (-40.0°C to 65.6°C).

1.2.3 Rating

These devices shall, at a minimum, pass the required volume of air according to Table 1 at -1.0 inch (-25.4 mm) water column.

Table 1

Stack AAV Capacity Requirements at 1.0 Inch (25.4 mm) of Water					
Drainage Stack Pipe Size		Minimum Airflow Requirement		Maximum DFU’s	
IPS inches	DN mm	CFM	L/s	Total for stack of 3 branch intervals or less	Total for stack greater than 3 branch intervals
1½	40	4.0	1.9	4	8
2	50	8.0	3.8	10	24
2½	65	12.0	5.7	20	42
3.0	75	23.0	10.9	48	72
4.0	100	47.0	22.2	240	500