

American National Standard

ASSE 1050-2021



Performance Requirements for
Stack Air Admittance Valves
for Sanitary Drainage

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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 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 wastewater 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.

These devices are typically installed after a building drainage system has been tested and inspected for pipe leaks. Installing these devices prior to that would damage them during the building's test.

See ASSE Standard #1051-2021 for the performance requirements for Fixture and Branch Type Air Admittance Valves for Sanitary Drainage Systems.

The working group that developed this standard 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 manufacturers who also participated in meetings for this standard.

This standard does not imply ASSE International'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 the ASSE Procedures for Standards Development as approved 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 normally closed 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 air flow rate according to Table 1 at -1.0 inch (-25.4 mm) water column.

Note: This corresponds to half the size of a 2-inch (50.8mm) trap diameter for when a trap potentially evaporates.