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# Performance Requirements for Backflow Preventers with an Intermediate Atmospheric Vent

## Section I

### 1.0 General

#### 1.1 Application

Backflow Preventers with Intermediate Atmospheric Vent (herein referred to as the “device”) are installed in the plumbing system to prevent backflow into potable water supply lines when pressure is temporarily higher in the polluted part of the system than in the potable water piping.

#### 1.2 Scope

##### 1.2.1 Description

The devices covered by this standard are those which have functional capabilities for preventing both back-siphonage and back pressure and which can operate under continuous or intermittent pressure conditions. These devices have two (2) independently operating check valves separated by an intermediate chamber with a means for automatically venting it to the atmosphere and can be installed in the horizontal, vertical up or vertical down orientations. The check valves are force loaded to a normally closed position and the venting means is force loaded to a normally open position.

##### 1.2.2 Size Range

Inlet and outlet pipe sizes are 1/4 to 3/4 NPS (8 mm to 20 mm) inclusive.

##### 1.2.3 Minimum Pressure Rating

The device shall be designed and constructed for a working pressure of at least 150.0 psi (1034.2 kPa).

##### 1.2.4 Temperature Range

The device shall be designed and constructed for normal flow temperatures of 40.0 °F to 210.0 °F (4.4 °C to 98.9 °C) and an emergency back pressure temperature of 250.0 °F (121.1 °C).

##### 1.2.5 Flow Rate

Manufacturer’s advertised maximum flow rate.

#### 1.3 Reference Standards

Referenced industry standards shall mean the latest edition of the standard.

- CFR Title 21, Section 177 – Food and Drugs: Indirect Food Additives: Polymers
- ANSI/ASME Standard B1.20.1- 83 – Pipe Threads, General Purpose, (inch)
- ANSI/ASME Standard B1.20.3-76 – Dryseal Pipe Threads (inch)
- ASTM B584-06a – Standard Specification for Copper Alloy Sand Castings for General Applications