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Dual Check Backflow Preventer Wall Hydrants - Freeze Resistant Type

Section I

1.0 General

1.1 Application

This standard establishes design and performance requirements and test procedures for Dual Check Backflow Preventer Wall Hydrants - Freeze Resistant (herein referred to as the “device”). The purpose of these devices is to provide protection of the potable water supply from contamination due to backsiphonage or backpressure without damage to the device due to freezing, and is field testable to verify protection under the high hazard conditions present at a hose threaded outlet. This device 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 10.0 feet (3.0 m) in height.

These devices shall not be subjected to continuous water pressure.

1.2 Scope

1.2.1 Description

These devices shall consist of two (2) independent checks, force loaded or biased to a closed position, with an atmospheric vent located between the two (2) check valves, which is force loaded or biased to an open position, and a means for attaching a hose. A field testability requirement shall verify the integrity of the outlet check valve and the opening of the atmospheric vent. The devices shall be classified as follows:

a) Type A devices automatically drain the water when the hydrant valve is closed and the hose removed to prevent damage from freezing.
b) Type B devices automatically drain the water with a hose removed or attached, end nozzle closed and the hydrant valve closed.

1.2.2 Size Range

1.2.2.1 Outlet Sizes

Sizes shall include 1/2 NPHS, 3/4 NPHS and 1 NPHS male hose threaded outlets.

1.2.2.2 Inlet Sizes

Sizes shall include but not be limited to 1/2 NPS, 3/4 NPS, or 1 NPS.

1.2.3 Connections

Garden hose connection threads shall be garden hose couplings per ANSI/ASME B1.20.7.

1.2.4 Pressure

The devices shall be designed for a minimum working pressure of at least 125.0 psi (861.9 kPa).

1.2.5 Temperature Range

The devices shall be designed for flow temperatures from 33.0 °F to 140.0 °F (0.6 °C to 60.0 °C).

1.2.6 Repairability

Devices shall be designed and constructed such that, after installation, repair or replacement of the elastomeric parts shall be accomplished using standard tools. Construction shall permit field service without damaging or marring the surface of the device.

1.2.7 Atmospheric Port

The atmospheric port shall be a non-standard plumbing connection.

1.3 Reference Standards

Referenced industry standards shall be the current edition of each standard.