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American Society of Sanitary Engineering

Performance Requirements for

Dual Check Valve Type Backflow Preventers for Carbonated Beverage Dispensers, Post Mix Type

An American National Standard

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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 Product Standards are developed in the interest of consumer safety.

The American Society of Sanitary Engineering is dedicated to the preservation of Public Health and Safety through "Prevention Rather Than Cure."

Prevention of contamination or pollution of potable water in plumbing systems, which is one of the major objectives of the Society's Standards Program, is addressed by the development and promulgation of Standards embracing performance criteria for manufactured plumbing components designed to safeguard public health and safety.

The recognition of probable sources or causes of contamination or pollution of a potable water system, whereby it becomes unfit or undesirable for human consumption, is vital to the maintenance of the system's continued potability.

While backflow into potable water lines is always a potential source of contamination, in connection with Post Mix Type Carbonated Beverage Dispensers, backflow of CO₂ gas into copper piping of the potable water system, causing copper carbonate poisoning, is especially serious and must always be protected against.

This standard is focused on those devices known as Dual (Double) Check Valves, which are one type of device recognized for backflow protection for use in connection with Post Mix Type Carbonated Beverage Dispensers. In addition to the inclusion of this device in the system, periodic inspection and servicing of the device is essential.

This standard is the latest addition to ASSE's current backflow prevention device standards, each of which cover a different type of backflow protection device; each tailored to the protective requirements essential to the specific system conditions in which it is installed and the degree of hazard involved.

Recognition is made of the time volunteered by members of the 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. It is recommended that these devices be replaced periodically per the manufacturer's instructions.

This standard was promulgated in accordance with procedures developed by the American National Standards Institute (ANSI).

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Dual Check Valve Type Backflow Preventers for Carbonated Beverage Dispensers, Post Mix Type

Section I

1.0 General

1.1 Application

Dual check valve type backflow preventers (for carbonated beverage dispensers, post mix type), herein referred to as "device," prevent carbon dioxide gas and carbonated water from backflowing into the potable water system which supplies the carbonating unit. These devices operate under continuous or intermittent pressure conditions.

1.2 Scope

1.2.1 Description

These devices consist of two (2) independently acting check valves internally force loaded to a normally closed position and designed to operate under intermittent or continuous pressure conditions.

These devices shall be permitted to be equipped with a supplementary check valve installed downstream of the independently acting check valves.

1.2.2 Size Range

These devices shall be designed to accommodate $\frac{1}{4}$ or $\frac{3}{8}$ inch (8 or 10 mm) nominal pipe sizes.

1.2.3 Minimum Working Pressure

Devices shall be designed for a working pressure of not less than 200.0 psi (1379.0 kPa).

1.2.4 Temperature Range

Devices shall be designed to operate at temperatures of 33.0 °F to 110.0 °F (0.6 °C to 43.3 °C).

1.3 Limitations on Design

1.3.1 Flow Capacity

The device shall meet the flow capabilities at the pressure drop specified in Section 3.6.

1.3.2 Structural Strength

All parts of the device shall be designed to withstand, without permanent distortion, the stresses developed by the specified hydrostatic test pressure, as well as the stresses resulting from a specified water working pressure coincident with operation under a specified unbalanced pressure condition.