American National Standard

ASSE 1003-2020

Performance Requirements for

Water Pressure Reducing Valves for Potable Water Distribution Systems

ASSE Board Approved: December 2020
ANSI Approved: December 2020
ICS Code: 91.140.60

Approved American National Standard ANSI

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General Information

No product may be said to be ASSE listed unless the manufacturer has applied to ASSE International, has had the product tested by an official ASSE recognized independent laboratory, according to the applicable ASSE standard, passed the test, and has been reviewed and approved by the consensus ASSE International Seal Control Board. Having completed the aforementioned, the manufacturer may then display the ASSE Seal on the product.

Instructions for receiving the authorization to display the Seal are available from the ASSE 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.

ASSE International
Mokena, Illinois

Foreword

This foreword shall not be considered a part of the standard. However, it is offered to provide background information.

ASSE International considers product performance standards to be of great value in the development of improved plumbing systems. ASSE standards are developed in the interest of consumer safety.

The working group that developed this standard was set up within the framework of the ASSE International Product Standards Committee.

A need was expressed for this standard for water pressure reducing valves. It was developed by a sub-committee of the ASSE Standards Committee using a City of Los Angeles standard as a base, which was originally created by a group that included the major manufacturers of this class of product

Testing procedures and test equipment diagrams have been added to this basic standard to enable uniform testing by testing agencies with adequate facilities and qualified personnel.

At the October 1964 ASSE Annual Meeting, this standard was accepted as an ASSE Standard and assigned the identifying number 1003.

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 that 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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Table of Contents

Performance Requirements for **Water Pressure Reducing Valves for Potable Water Distribution Systems**

Section I

1.0 General

1.1 Application

The purpose of a water pressure reducing valve for domestic water distribution systems (herein referred to as the “device”) is to reduce static and flowing pressures in water distribution systems.

1.2 Scope

1.2.1 Description

Devices covered by this standard are self-contained, direct acting, single diaphragm types. Devices shall be permitted to have an integral strainer, separate strainer connected to the valve inlet, or be without strainer. Devices shall be permitted to be with or without an integral by-pass relief valve.

1.2.2 Size Range

Nominal device sizes shall be ½, ¾, 1, 1¼, 1½, 2, 2½ , 3 and 4 inches (DN 15, DN 20, DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, and DN 100).

1.2.3 Pressure Range

Devices shall be designed for a minimum working pressure of 250.0 psi (1723.8 kPa).

1.2.4 Temperature Range

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

1.3 Limitations on Design

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.

1.3.1 Repairability

a) The internal parts of the devices or strainers (if provided) shall be accessible for inspection, cleaning, repair or replacement. The design shall permit this servicing without removing the device from the pipeline.
b) All replacement parts shall be interchangeable with the original parts.