American National Standard

ASSE 1064-2020

Performance Requirements for

Backflow Prevention Assembly Field Test Kits

ASSE Board Approved: September 2020
ANSI Approved: December 2020
ICS Code: 19.060

Approved American National Standard ANSI

SANITARY ENGINEERING ASSE Prevention Rather Than Cure ®

General Information

No product may be said to be ASSE listed unless the manufacturer has received approval from ASSE International and the product is listed in ASSE's online directory. Instructions for receiving the authorization to display the ASSE 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 is dedicated to the preservation of public health and safety through its guiding principle, “Prevention Rather Than Cure.” ASSE product standards are developed in the interest of consumer safety.

The ASSE’s Product Standards Program systematically evaluates new technologies through formal requests and addresses the development and promulgation of performance standards designed to safeguard public health and safety.

Standards for the performance of plumbing system components are considered by ASSE International to be of great value in the development of improved plumbing systems for the increased protection of public health and safety.

Backflow test kits are used to annually test products conforming to the following ASSE Standards:

- ASSE Standard #1013, *Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers*
- ASSE Standard #1015, *Performance Requirements for Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies*
- ASSE Standard #1020, *Performance Requirements for Pressure Vacuum Breaker Assembly*
- ASSE Standard #1047, *Performance Requirements for Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies*
- ASSE Standard #1048, *Performance Requirements for Double Check Detector Fire Protection Backflow Prevention Assemblies*

The following standard provides requirements for backflow test kits so that a degree of accuracy shall be obtained while the technician certifies the operation and performance of backflow assemblies.

The accuracy test applies to gauge-displayed value when compared to the accepted standard value or true value. The degree of conformity is expressed in terms of maximum ± deviation from the true value. The accuracy rating includes the combined effects of linearity and repeatability. Effects of varying operating conditions, such as EMI/FRI exposure, ambient temperature, process static pressure or temperature which may cause the instrument’s displayed value to exceed accuracy, must be determined by test. The results, with established limitations of the useful operating range (where the instrument does not exceed accuracy rating), must be included in documentation, instruction manuals and test certificates.

These requirements apply to the complete test kit and its assembly, regardless of technology employed to measure and display the pressure of differential pressure. The kit must be provided with documentation certifying that the instrument conforms to the accuracy requirements of this standard and has been calibrated with devices traceable to NIST. The calibration test devices shall have an accuracy rating, which is at least four (4) times greater than the accuracy of the test kit instruments.

Recognizing the application specific requirements, it is recommended that the calibration tests be conducted with the kit in the upright/vertical position. Data should be taken in response to the decreasing pressure, at a minimum of five (5) points.

Recognition is made of the time volunteered by the members of the working group and of the support of the manufacturers who participated in 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.

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Section I

1.0 General

1.1 Application

Portable backflow prevention assembly field test kits (herein referred to as “BFTK”) shall be used in testing the performance of backflow prevention assemblies.

1.2 Scope

This standard covers the performance requirements and accuracy of a BFTK. This standard is confined to analog dial type and digital instrumentation. Duplex gauges are not a part of this standard.

1.2.1 Description

BFTKs shall be of a design making them portable. They shall be designed to indicate the operation of a backflow prevention assembly to pre-established testing procedures. The BFTK shall include all gauges, hoses, valves and fittings as required for testing purposes.

1.2.2 BFTK Accuracy Requirements

1.2.2.1 Differential Pressure Gauge Accuracy Requirements

On descending pressure, differential gauges shall have an accuracy of ± 0.2 psid (± 1.4 kPad).

NOTE: All referenced kPa values are rounded for proper gauge readability.

1.2.2.2 Line Pressure Gauge Accuracy Requirements

Pressure gauges used for the purpose of indicating line pressure on a backflow preventer shall have an ASME B40.100 accuracy, grade C or better.

1.2.3 Pressure Range

Portable BFTKs shall indicate a full-scale pressure reading of 15.0 psid (103.4 kPad). Gauges designed to read a line pressure shall have a maximum range of 300.0 psi (2068.4 kPa).

1.2.4 Temperature Range

All BFTKs shall have a water temperature range of 33.0 °F (0.6 °C) to a maximum of 150.0 °F (65.6 °C).

1.2.5 Gauge Resolution

1.2.5.1 Differential Pressure Test Kit

Differential pressure BFTKs shall be able to resolve 0.1 psi (0.7 kPa). .