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American Society of Sanitary Engineering

Performance Requirements for

Temperature Actuated Mixing Valves for Plumbed Emergency Equipment

An American National Standard

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General Information

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American Society of Sanitary Engineering
Westlake, Ohio
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Foreword

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

Water mixing, also defined as tempering or blending, valves are used extensively in applications for emergency shower/eye and face wash systems to mix hot and cold water to provide “tepid” water. The term “tepid” has not been specifically defined, but is generally understood to mean “lukewarm” or “moderately warm.”

These devices, while designed for automatic control of the hot water temperature within a reasonable degree of uniformity, should not be confused or used in place of ASSE Standard 1016, 1017, 1069 or 1070 devices. Valves designed to meet this standard are intended to be used as a component that can provide tepid water for emergency eye wash and shower equipment that comply with the requirements of ANSI Z358.1, American National Standard for Emergency Eyewash and Shower Equipment. These valves, by themselves, do not meet the requirements of ANSI Z358.1.

In circumstances where chemical reaction is accelerated by flushing fluid temperature, per ANSI Z358.1, a medical advisor should be consulted for the optimum temperature for each application.

The working group, which developed this standard revision, was set up within the framework of the Product Standards Committee of the American Society of Sanitary Engineering.

Recognition is made of the time volunteered by members of this 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.

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

This edition of the standard was approved by the ASSE Board of Directors on August 30, 2012 as an ASSE standard.

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Section I

1.0 General

1.1 Application

Temperature Actuated Mixing Valves for Plumbed Emergency Equipment (herein referred to as the “device”), including eyewash, eye/face wash, drench showers and combination units, are intended to be installed in systems that comply with ANSI Z358.1.

1.2 Scope

1.2.1 Description

These devices shall consist of a hot water inlet connection, a cold water inlet connection, a mixed water outlet connection, a temperature controlling element and a means for adjusting the mixed water outlet temperature while in service. The device shall also have a means to limit the maximum outlet temperature under normal operating conditions. Provisions shall be made so that the temperature cannot be inadvertently adjusted.

1.2.2 Connections

Pipe threads and other connections shall conform to applicable standards.

1.2.2.1 Tapered pipe threads shall comply with ASME B1.20.1.

1.2.2.2 Dry seal pipe threads shall comply with ASME B1.20.3.

1.2.2.3 Compression assemblies shall comply with SAE J 512.

1.2.2.4 Soldered connections shall comply with ASME B16.18 or ASME B16.22.

1.2.2.5 Push fit connections shall comply with ASSE 1061.

1.2.3 Minimum Flow

Devices covered by this standard are for plumbed emergency equipment with a minimum flow rate of 1.5 GPM (5.7 L/m).

1.2.4 Maximum Working Pressure

The device shall be designed to function at a working pressure of 125.0 psi (861.9 kPa) or greater.

1.2.5 Temperature Range

1.2.5.1 Inlet Water Temperature Range

The hot water inlet temperature range shall be 120.0 °F to 180.0 °F (48.9 °C to 82.2 °C) and the cold water inlet temperature range shall be 40.0 °F to 70.0 °F (4.4 °C to 21.1 °C). The cold water supply shall be at least 10.0 °F (5.5 °C) lower than the outlet water temperature setting.