

ASSE International

Performance Requirements for

Automatic Temperature Control Mixing Valves

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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 standards are developed in the interest of consumer safety.

This standard was developed for devices that service end use fixture fittings, including but not limited to, gang showers and sitz baths, by supplying tempered water at a preset temperature through a single supply pipe. The need for this standard exists because no other standard covers products that supply a wide range of demand in flow rate while providing final control of the mixed water temperature. These devices are not intended to be installed for individual showers or tub/shower combinations.

It is understood that further mixing of water downstream of these devices will not occur. These devices shall be the final temperature control of the water that comes in contact with the end user.

Control of the final outlet temperature of these devices shall be set by either the installer or building owner. The end user generally does not have access to the device. These devices generally have one cold water inlet connection, one hot water inlet connection, and a mixed water outlet connection(s). The valves covered by this standard are only those which will, in cases of changes in hot or cold water supply pressure, temperature, or loss of cold water supply, reduce the risk of scalding and thermal shock.

Recognition is made of the time and support of those who participated in the development of this standard.

This standard does not imply ASSE's endorsement of a product which conforms with 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.

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

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Automatic Temperature Control Mixing Valves

Section I

1.0 General

1.1 Application

These devices are intended to control the water temperature to individual or multiple fixtures to reduce the risk of scalding and thermal shock. Shut-off(s) downstream of the device shall be permitted. These devices are intended to be installed where the bather has no access to the temperature adjustment means, and where no further mixing occurs downstream of the device.

1.2 Scope

1.2.1. Description

These devices shall be designed to supply only tempered water to the end user, and automatically compensate for pressure and/or temperature variations in water distribution systems. These devices shall have the capability to significantly reduce the outlet flow in the event of a cold water distribution system failure. The device shall be equipped with an adjustable means to limit the setting of the device towards the hot position. The device is designed to be the final temperature control.

1.2.2. Maximum Working Pressure

The maximum working pressure of the device shall be at least 125.0 psi (861.9 kPa).

1.2.3. Temperature Range

1.2.3.1. Inlet Water Temperature Range

The maximum inlet hot water temperature shall be 180.0 °F (82.2 °C); and the inlet cold water temperature range shall be 39.0 °F to 80.0 °F (3.9 °C to 26.7 °C).

1.2.3.2. Outlet Water Temperature Range

The device shall be capable of supplying a minimum adjustable outlet water temperature range of 100.0 °F to 115.0 °F (37.8 °C to 46.1 °C) provided the hot water supply temperature is at least 20.0 °F (11.0 °C) greater than the outlet temperature setting. The maximum outlet temperature of the device shall be 120.0 °F (48.9 °C) when the temperature limiting means is adjusted and the device is tested in accordance with Section 3.6.

1.2.4. Minimum Flow Rate

These devices are designed to function at a flow of 2.5 GPM (9.5 L/min).

1.3 Reference Standards

Referenced industry standards shall be the latest edition.