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ASSE International

Performance Requirements for

Temperature Actuated, Flow Reduction (TAFR) Valves for Individual Supply Fittings

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.

Exposure to high temperature water can result in serious injuries. This problem has been publicized by consumer safety organizations and is addressed in ASTM F444-88, *Standard Consumer Specification for Scald-Preventing Devices and Systems in Bathing Areas*.

This standard covers point of use temperature actuated, flow reduction (TAFR) valves that are installed in-line with, or integrated into, supply fittings. These valves automatically reduce discharge flow to a trickle if water temperature exceeds a preset limit. Other ASSE standards, such as ASSE 1016/ASME A112.1016/CSA B125.16, ASSE 1017, ASSE 1066, ASSE 1069, and ASSE 1070/ASME A112.1070/CSA B125.70, have been developed for hot and cold water mixing valves that limit discharge temperature, and in-line pressure balancing valves that minimize pressure variations between the hot and cold water supplies. TAFR valves are not intended to be installed in place of devices complying with ASSE 1016/ASME A112.1016/CSA B125.16, ASSE 1017, ASSE 1066, ASSE 1069, or ASSE 1070/ASME A112.1070/CSA B125.70. ASSE recommends that TAFR valves be installed in accordance with local code requirements by qualified individuals.

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

This standard does not imply ASSE's endorsement of a product that conforms to these requirements.

Compliance with this standard does not imply acceptance by any code body.

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Performance Requirements for Temperature Actuated, Flow Reduction (TAFR) Valves for Individual Supply Fittings

Section I

1.0 General

1.1 Application

This standard applies to temperature actuated, flow reduction (TAFR) valves for individual supply fittings (herein referred to as the “device”) that react to high temperature water. These valves are intended for use in-line with, or integrated into, individual plumbing supply fittings such as shower heads, bath and utility faucets, and sink and lavatory faucets.

When intended for use by people with disabilities, TAFR valves covered by this standard shall also comply with ICC Standard A117.1.

The use of TAFR valves does not replace the requirements for valves compliant to ASSE 1016 / ASME A112.1016 / CSA B125.16, ASSE 1069, or ASSE 1070 / ASME A112.1070 / CSA B125.70, as outlined in the model codes.

1.2 Scope

1.2.1 Description

Devices covered by this standard shall be mechanically or electrically operated, and shall be installed in-line with, or integrated into, supply fittings. These devices shall automatically reduce flow within five (5) seconds to 0.25 GPM (0.95 L/min) or less at 80.0 psi (551.6 kPa) in response to outlet temperatures greater than a preset actuation temperature, not to exceed 120.0 °F (48.9 °C), so as to limit exposure to high temperature water discharged from an individual supply fitting.

After actuation, the reset open temperature shall not be less than 90.0 °F (32.2 °C) and shall reset open automatically, or with the use of a manual reset mechanism.

1.2.2 Size Range

Sizes of the devices covered by this standard shall be 1 inch NPS (25 DN) or smaller.

1.2.3 Flow Rates Before Actuation

- a) When the device is integrated into a supply fitting, the flow rate of the assembly prior to actuation shall be in accordance with ASME A112.18.1/CSA B125.1.
- b) For devices not integrated into a supply fitting, but are to be used with a supply fitting that has a specified minimum flow rate in the ASME A112.18.1/CSA B125.1, the minimum flow rate prior to actuation shall be at least 0.5 GPM (1.9 L/min) greater than the applicable ASME A112.18.1/CSA B125.1 requirement. If the device is to be used with a supply fitting that has a specified maximum flow, no other maximum flow requirement shall be necessary unless the device is used to limit flow.