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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”) which react to high temperature water. These valves are intended for use in-line with or are 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/ANSI Standard A117.1.

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/m) 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 A112.18.1-2005/CSA B125.1-2005.

b) For devices not integrated into a supply fitting, but that are to be used with a supply fitting that has a specified minimum flow rate in the ASME A112.18.1-2005/CSA B125.1-2005, the minimum flow rate prior to actuation shall be at least 0.5 GPM (1.9 L/min) greater than the applicable ASME A112.18.1-2005/CSA B125.1-2005 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.

1.2.4 Pressure Range

The device's operating pressure range shall be 10.0 to 80.0 psi (69.0 to 551.6 kPa). The working pressure range shall be 10.0 to 125.0 psi (69.0 to 861.9 kPa).

1.2.5 Temperature Range

The device's working temperature range shall be 37.0 °F to 180.0 °F (2.8 °C to 82.2 °C).

1.3 Reference Standards

Reference to industry standards shall be to the latest edition.

- ASME A112.18.1-2005/CSA B125.1-2005 Plumbing Supply Fittings
- ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities
- ASME PTC 19.2 Instruments and Apparatus: Part 2 Pressure Measurement
- ASME PTC 19.5 Application, Part II of Fluid Meters: Interim Supplement on Instruments and Apparatus.
- ANSI/ISA M96.1 Temperature Measurement Equipment