

SEATTLE / KING COUNTY PUBLIC HEALTH
Community Environmental Health
Plumbing / Gas Piping Inspections

DECISIONS / INTERPRETATIONS
of the Chief Plumbing Inspector

Date: April 18, 2012

Decision No. 11-002

REVISED

Subject: Control valve requirements for showers and combination bathtub/showers, including claw-foot bathtubs with showers.

Code / Section: 2009 Uniform Plumbing Code (UPC) Sections 418.0 & 414.5

Decision

All individual shower control valves or combination bathtub/shower control valves that operate fixed shower heads, body sprays, or similar fixed outlets in a standup-type shower application shall conform to ASSE 1016 or ASME A112.18.1/CSA B125.1 standards. This also applies to claw-foot bathtub control valves with a fixed shower riser. This does not apply to bathtub filler valves with or without handheld shower attachments or to emergency showers.

Background

Individual shower only control valves regardless of the type of shower head, spray or handheld outlet are required to be (1) pressure balance, (2) thermostatic, or (3) combination pressure balance/thermostatic mixing valve type. All fixture fittings (valves) are required to meet ASME A112.18.1/CSA B125.1. However, shower control valves are required to conform to ASSE 1016 or to Clause 5.10 of ASME A112.18.1/CSA B125.1. Such valves will likely have the ASSE 1016 mark or will be identified in their listing as being an *automatic compensating* valve. Combination tub/shower control valves with a permanently fixed shower head, body spray or similar outlet must conform to the above requirements. This applies to claw-foot bathtubs with shower riser attachments for a standup-type shower application. Two- or three-handle control valves with a hot control on the left and a cold control on the right do not conform to ASSE 1016 or to Clause 5.10 of ASME A112.18.1/CSA B125.1.

The Plumbing Code and the product standards also require that shower control valves have a maximum temperature limit device that must be adjusted by the installer and is not thereafter adjustable by the user during normal use of the shower. The high-limit stop is typically an adjustable set screw or cam that is manually set to limit the travel of the control valve handle or the proportions of hot and cold water to provide a set temperature. Adjustment would typically require removal of the valve trim plate. The high-limit stop must be field adjusted at the time of installation to limit the delivered water temperature to a maximum of 120°F. This would require that the water heating appliance be in operation at the time of adjustment.

There are two types of events that the shower control valve must be designed to protect against: (1) extreme temperature fluctuations from the user set temperature caused by changes in hot or cold water distribution line pressures, and (2) extreme temperature conditions caused by the user either purposely or accidentally adjusting the control valve to deliver the hottest water available from the hot water distribution system. Where water inlet pressures or outlet temperatures fluctuate during shower use, control valves complying with ASSE 1016 or Clause 5.10 of ASME A112.18.1/CSA B125.1 are designed to automatically and rapidly adjust to maintain the water discharge temperature.

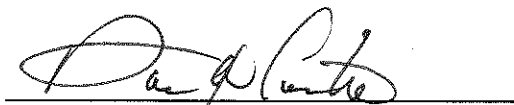
In a standup-type shower application where the shower head, body spray, or similar outlet is permanently fixed, a user subjected to a sudden or extreme temperature change may react by abruptly moving away from the fixed shower outlet. This abrupt movement may result in falls that could cause injury to the user. Therefore, showers and combination tub/showers must have a shower control valve that is capable of protecting an individual from extreme temperature changes or from being exposed to water temperatures in excess of 120°F. The control valve must be installed at the point of use. In other words, the person in the shower must have access to the control handle(s) of the valve in order to adjust the hot and cold supply as desired during use. Inline-type thermostatic or pressure balancing valves do not satisfy the requirements of UPC Section 418.0.

Where a hand-held shower is connected to a bathtub filler faucet only, or where such bathtub filler faucet includes a handheld shower attachment, the faucet is not required to comply with ASSE 1016 or Clause 5.10 of ASME A112.18.1/CSA B125.1 as would be required for a standup-type fixed shower application. Additionally, the handheld shower attachment does not "*reclassify*" a tub filler faucet as a "*combination tub/shower valve*." Bathtub fill valves with or without handheld shower attachments must be limited to a maximum of 120°F by means of an inline *point-of-use* temperature limiting device conforming to ASSE 1070 in accordance with UPC Section 414.5.

A fixed shower riser is any method whereby the shower outlet is secured in such a way that the bather does not need to physically hold the shower outlet in order to shower while standing in the enclosure. In a standup-type fixed shower application the inspector will primarily look for the following in order to verify conformance:

1. ASSE 1016 marking on the valve, or
2. A single-handle control for hot and cold with an adjustment screw or cam to limit the travel of the control.

Effective Date: April 18, 2012



Dave W Cantrell
Chief Plumbing Inspector
Public Health – Seattle & King County