AS 4032.1:2024

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Water supply — Valves for the control of heated water supply temperatures

Part 1: Thermostatic mixing valves — Materials design and performance requirements

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This Australian Standard ® was prepared by WS-026, Valves primarily for use in Warm and Hot Water Systems. It was approved on behalf of the Standards Australia's Standards Development and Accreditation Committee on 17 October 2024.

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The following are represented on Committee WS-026:

Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Industry Group
enHealth
Gas Appliance Manufacturers Association of Australia
Institute of Healthcare Engineering Australia
Master Plumbers Association of NSW
Master Plumbers Australia and New Zealand
Plumbing Products Industry Group

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Part 1: Thermostatic mixing valves — Materials design and performance requirements

Originated as AS 4032—1992.
Revised and redesignated as AS 4032.1—2002.
Third edition 2024.

Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee WS-026, Valves primarily for use in Warm and Hot Water Systems, to supersede AS 4032.1:2005.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this document is to specify requirements for the design, construction, testing and performance for thermostatic mixing valves, which give a level of protection to users against exposure to high or excessive fluctuations in mixed-water temperatures caused by variations, including shut-off, in the cold or hot water supply.

This document is part of a series of Standards that cover valves for the control of hot water temperatures. A list of all parts in the AS 4032 series can be found in the Standards Australia online catalogue.

The major changes in this edition are as follows:

(a) Removal of the requirement for the body of the valve to be only metallic.

(b) Additional testing requirements for a valve body manufactured of polymer material.

The terms "normative" and "informative" are used in Standards to define the application of the appendices to which they apply. A "normative" appendix is an integral part of a Standard, whereas an "informative" appendix is only for information and guidance.

This document necessarily deals with existing conditions, but is not intended to discourage innovation or to exclude material, equipment and methods that may be developed in the future. Revisions will be made from time to time in view of such developments, and amendments to this edition will be made only when absolutely necessary.

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1 Scope and general

1.1 Scope

This document specifies requirements for the design, construction, testing performance and means of conformance for thermostatic mixing valves —

(a) of nominal sizes not larger than DN 50;

(b) for use with hot water at a supply temperature not exceeding 90 °C and

(c) for use with hot and cold water with working pressures not exceeding 1400 kPa.

Thermostatic mixing valves conforming to this document prevent scalding caused by variations of pressure and temperature of the hot and cold water supplies, providing shut-off of either the cold or hot water supply.

Thermostatic mixing valves, when adjusted to an outlet temperature not exceeding 45 °C, are intended for use in health and aged care facilities, childcare centres, for people with disabilities or other vulnerable groups.

Thermostatic mixing valves, when adjusted to an outlet temperature not exceeding 50 °C, may be used for other applications.

Product conformity requirements are provided in Appendix A.

NOTE AS 4032.3 covers routine maintenance and performance testing requirements for thermostatic mixing valves.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1199 (all parts), *Sampling procedures for inspection by attributes*

AS 1432, *Copper tubes for plumbing, gasfitting and drainage applications*

AS 1565, *Copper and copper alloys—Ingots and castings*

AS 1572, *Copper and copper alloys—Seamless tubes for engineering purposes*

AS 1769, *Welded stainless steel tubes for plumbing applications*

AS 1834.1, *Material for soldering, Part 1: Solder alloys*

AS 2345, *Dezincification resistance of copper alloys*

AS 2738, *Copper and copper alloys—Compositions and designations of refinery products, wrought products, ingots and castings*