AS 4032.1—2005

Australian Standard™

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

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

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee WS-026, Valves Primarily for Use in Warm and Hot Water Systems. It was approved on behalf of the Council of Standards Australia on 18 November 2004.
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The following are represented on Committee WS-026:

AUSTAP
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Association of Certification Bodies
Building Research Association of New Zealand
Business New Zealand
SAI Global
Department of Health (South Australia)
Gas Appliance Manufacturers Association of Australia
Housing Industry Association
Institute of Hospital Engineering Australia
Master Plumbers and Mechanical Contractors Association NSW
Master Plumbers, Gasfitters and Drainlayers New Zealand
NSW Health Department
Water Corporation Western Australia

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WS-026, Valves Primarily for Use in Warm and Hot Water Systems, to supersede AS 4032.1—2002, *Thermostatic mixing valves*.

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

This revision includes provision for electronically controlled valves, requirements for hot water shut-off performance and increased sizes up to 50 mm

This Standard is Part 1 of a suite of Standards that covers valves for the control of hot water temperatures as follows:

AS		
4032	Water supply—Valves for the control of heated water supply temperatures	
4032.1	Part 1:	Thermostatic mixing valves—Materials, design and performance requirements (this Standard)
4032.2	Part 2:	Tempering valves and end-of-line temperature-activated devices
4032.3	Part 3:	Requirements for field testing, maintenance or replacement of thermostatic mixing valves, tempering valves and end-of-line temperature control devices

The objective of this Standard is to provide manufacturers, system designers, relevant authorities and others with performance requirements 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.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

Statements expressed in mandatory terms in notes, tables and figures are deemed to be requirements of this Standard.

This Standard 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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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the design, construction, testing performance and means of compliance for metallic-bodied 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.

When used for ablutionary purposes, thermostatic mixing valves complying with this Standard provide the user with reasonable protection against scalding or excessive temperature fluctuations due to variations of pressures and temperatures of the hot and cold water supplies, including shut-off of either the cold or hot water supply.

NOTES:

1 Diagrams in this Standard are typical and chosen without prejudice.

2 Thermostatic mixing valves require routine maintenance and performance testing in accordance with AS 4032.3.

1.2 APPLICATION

The operating range of the valve shall be nominated by the manufacturer.

Thermostatic mixing valves, when adjusted to an outlet temperature not exceeding 45°C, are intended for use in health care, aged, childcare, people with disabilities or any other similar at risk situations.

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

Means for demonstrating compliance with this Standard shall be as given in Appendix A.

1.3 REFERENCED DOCUMENTS

The documents referred to in this Standard are listed in Appendix B.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions in AS/NZS 3500.0 and the ones below apply.