AS 1357.1—2009
(Incorporating Amendment No. 1)

AS 1357.1—2009


# Valves primarily for use in heated water systems

# Part 1: Protection valves

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 22 September 2008.
This Standard was published on 28 January 2009.

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The following are represented on Committee WS-026:

- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Building Officials Institute of New Zealand
- Consumers Federation of Australia
- Department of Health (South Australia)
- Gas Appliance Manufacturers Association of Australia
- Institute of Hospital Engineering Australia
- Master Plumbers and Mechanical Services Association of Australia
- Master Plumbers Association of NSW
- Master Plumbers, Gasfitters and Drainlayers New Zealand
- New Zealand Employers and Manufacturers Association
- New Zealand Engineers Federation
- NSW Health Department
- Plumbing Product Industry Group (AUSTAP)
- Water Corporation Western Australia

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This Standard was issued in draft form for comment as DR 07139.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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# Valves primarily for use in heated water systems

# Part 1: Protection valves

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# PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee WS-026, Valves Primarily for Use in Warm and Hot Water Systems, to supersede AS 1357.1—2004, *Water supply—Valves for use with unvented water heaters*, Part 1: *Protection valves*, and ATS 5200.476—2006, *Technical Specification for plumbing and drainage products*, Part 476: *Heated water systems—Leak protection device*.

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.

*This Standard incorporates Amendment No. 1 (April 2016). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

The objective of this Standard is to provide manufacturers with design, materials and performance requirements for the protection of valves.

Other Standards covering heated water system valves include the following:

| AS | | |
|---|---|---|
| 1357 | Valves primarily for use in heated water systems | |
| 1357.2 | Part 2: | Control valves |
| 4032 | Water supply—Valves for the control of heated water supply temperatures | |
| 4032.1 | Part 1: | Thermostatic mixing valves—Materials design and performance requirements |
| 4032.2 | Part 2: | Tempering valves and end-of-line temperature actuated 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 |
| A1 4032.4 | Part 4: | Thermostatically controlled taps for the control of heated water supply temperatures |

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 to tables and figures are deemed to be requirements of this Standard.

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STANDARDS AUSTRALIA

# Australian Standard
# Valves primarily for use in heated water systems

## Part 1: Protection valves

## SECTION 1 SCOPE AND GENERAL

### 1.1 SCOPE

This Standard sets out requirements for the design, construction, testing and performance of the following types of valves, within the range of DN 15 to DN 50:

(a) Temperature/pressure-relief valves.

(b) Expansion-control valves.

(c) Non-return valves.

(d) Temperature-relief valves.

(e) Combination high-pressure expansion non-return valves (HPNR).

(f) Leak-protection devices.

The valves specified in this Standard are primarily intended for use in warm and hot water systems that are required to operate at—

(a) continuous operating temperatures not exceeding 85°C;

(b) temperatures under emergency conditions, not exceeding 99°C; and

(c) continuous working pressure not exceeding 1400 kPa.

NOTE: For valves used with water heaters, which are intended to operate at temperatures above 99°C (e.g., hot water boilers), see AS 1271.

### 1.2 APPLICATION

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

### 1.3 NORMATIVE REFERENCES

Documents referred to in this Standard in normative terms are listed in Appendix B.

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

### 1.4 DEFINITIONS

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

#### 1.4.1 Auxiliary pressure-relief device

Pressure-operated device forming part of an expansion control valve, temperature-relief valve or temperature/pressure relief valve, which in the event of blockage of the drain outlet provides—

(a) expansion relief (expansion-control valves);

 