AS 1357.1—2004
(Incorporating Amendment Nos 1 and 2)

Australian Standard®

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 5 November 2003.
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The following are represented on Committee WS-026:

- AUSTAP
- Australian Association of Certification Bodies
- Business New Zealand
- Consumers' Federation of Australia
- Gas Appliance Manufacturers Association of Australia
- Housing Industry Association
- Institute of Hospital Engineering Australia
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- Master Plumbers and Mechanical Contractors Association NSW
- Metal Trades Industry Association of Australia
- New Zealand Engineering Federation
- New Zealand Society of Master Plumbers and Gasfitters
- NSW Health Department
- South Australian Health Commission
- Water Corporation Western Australia

This Standard was issued in draft form for comment as DR 02412.

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 public comment period.

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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—1992, *Water supply—Valves for use with unvented water heaters, Part 1: Protection valves.*

This Standard incorporates Amendment No. 1 (October 2005) and Amendment No. 2 (February 2007). 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.

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 Standard is to provide manufacturers with design, materials and performance requirements for protection valves.

This Standard includes Amendment No. 1 published in May 1996, Section 7 temperature relief valves and interim specification 426 for high-pressure expansion non–return valves (HPNR), Section 8.

Other standards covering heated water system valves include the following:

AS 1357.2 Vacuum relief valves, Thermosiphon arrestor valves, Inlet pressure control valves, Isolating valves.

AS 4032.1 Thermostatic mixing valves—Materials design and performance requirements

AS 4032.2 Tempering valves and end of line temperature actuated devices.

AS 4032.3 Water supply—Valves for the control of hot water supply temperatures—Requirements for field testing, maintenance or replacement of thermostatic mixing valves, tempering valves and end of line temperature control devices

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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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).

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.

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

Means for demonstrating compliance with this Standard are given in Appendix A.

1.2 REFERENCED DOCUMENTS

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

1.3 DEFINITIONS

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

1.3.1 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);

(b) safety relief (temperature-relief valves); or

(c) expansion and safety relief (temperature/pressure-relief valves).

