



ANSI Z21.22-2015 • CSA 4.4-2015  
*(reaffirmed 2020)*

## Relief valves for hot water supply systems



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# *Revision History*

ANSI Z21.22-2015 • CSA 4.4-2015, Relief valves for hot water supply systems

Revisions from the first edition	Revision symbol (in margin)
Clauses <a href="#">3</a> , <a href="#">4.5.2</a> , <a href="#">4.10.4</a> , and <a href="#">5.2</a>	Δ

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## ANSI Z21.22-2015 • CSA 4.4-2015 **Relief valves for hot water supply systems**



American National Standards Institute, Inc.

# IGAC

International Gas Advisory Council



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# Preface

This is the second edition of ANSI Z21.22-2015 • CSA 4.4-2015, *Relief valves for hot water supply systems*.

This Standard was prepared by the Z21/CSA Joint Technical Advisory Group on Standards for Gas-Fired Water Heaters under the jurisdiction of the Technical Committee on Gas Appliances and Related Accessories, the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories, and the Strategic Steering Committee on Standards for Fuel Burning Appliances, and had been formally approved by the Technical Committee(s), American National Standards Institute, and the Interprovincial Gas Advisory Council.

**Interpretations:** The Strategic Steering Committee on Standards for Fuel Burning Appliances has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant committee interpretation has not already been published, CSA Group’s procedures for interpretation shall be followed to determine the intended safety principle.”

## Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *This Standard contains SI (Metric) units corresponding to the yard/pound quantities, the purpose being to allow the standard to be used in SI (Metric) units. (IEEE/ASTM SI 10, American National Standard for Metric Practice, or ISO 80000-1:2009, Quantities and units – Part 1: General, is used as a guide in making metric conversion from yard/pound quantities.) If a value for a measurement and a corresponding value in other units are stated, the first stated value is to be regarded as the requirement. The given corresponding value may be approximate. If a value for a measurement and a corresponding value in other units are both specified as a quoted marking requirement, the first stated unit, or both, are to be provided.*
- 3) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 4) *This publication was developed by consensus, which is defined by CSA Policy governing standardization – Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity.” It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*
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  - a) *Standard designation (number);*
  - b) *relevant clause, table, and/or figure number;*
  - c) *wording of the proposed change; and*
  - d) *rational justification for the change.*
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  - b) *provide an explanation of circumstances surrounding the actual field condition; and*  
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## History of the development of ANSI Z21.22-2015 • CSA 4.4-2015

**Note:** This history is informative and is not part of the standard.

With the onset of the Free Trade Agreement between the United States and Canada on January 2, 1988, significant attention was given to the harmonization of the United States and Canadian safety standards addressing gas-fired equipment for residential, commercial and industrial applications. It was believed that the elimination of the differences between the standards would remove potential trade barriers and provide an atmosphere in which North American manufacturers could market more freely in the United States and Canada. The harmonization of these standards was also seen as a step toward harmonization with international standards. Joint subcommittees were established to facilitate the standards harmonization process between the United States and Canada.

At its October 24, 1995 meeting, the Z21/CGA Joint Subcommittee on Standards for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems appointed an ad hoc working group to prepare a draft bi-national standard for Relief Valves. By letter ballot dated May 16, 1997, the joint subcommittee approved sending the draft standard for public review and comment.

The first draft harmonized standard was based on current coverage from the American National Standard for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, Z21.22-1986, and the Canadian Gas Association Standard for Temperature, Pressure, Temperature and Pressure Relief Valves and Vacuum Relief Valves, CAN1-4.4-M80 (R1996).

Following reconsideration and modification of the proposed draft standard, in light of comments received, the joint relief valve subcommittee at its September 3, 1997 meeting, recommended the proposed draft standard to Accredited Standards Committee Z21/83 and the (Interim CSA) Standards Steering Committee for approval.

The proposed draft of the harmonized standard for automatic gas shutoff devices, as modified by the joint subcommittee, was approved by the Z21/83 Committee at its April 30, 1998 meeting, and by the CGA Standards Steering Committee by letter ballot dated October 27, 1998.

The first edition of the American National Standard/CSA Standard for Relief Valves for Hot Water Supply Systems was approved by the Canadian Interprovincial Gas Advisory Council on January 21, 1999, and by the American National Standards Institute, Inc., on October 16, 1998.

The previous editions of the Standard for Relief Valves for Hot Water Supply Systems, and addenda thereto, approved by the Interprovincial Gas Advisory Council and American National Standards Institute, Inc. are as follows:

ANSI Z21.22-1998 • CSA 4.4-1999

ANSI Z21.22a-2000 • CSA 4.4a-2000

ANSI Z21.22b-2001 • CSA 4.4b-2001

The following identifies the designation and year of the second edition of the Standard:

Z21.22-2015 • CSA 4.4-2015

**Note:** This, the 2015 edition of ANSI Z1.22 • CSA 4.4, incorporates changes to the 1999 edition. Changes, other than editorial, are denoted by a delta in the margin.

# ***ANSI Z21.22-2015 • CSA 4.4-2015***

## ***Relief valves for hot water supply systems***

### **1 Scope**

#### **1.1**

This Standard applies to the following types of relief valves constructed entirely of new, unused parts and materials:

- a) combination temperature and pressure relief valves for use on storage tanks of hot water supply systems without heater input limitation, hereinafter called “T&P” valves;
- b) valves having only pressure relief features for use on storage tanks of hot water supply systems without heater input limitation; and
- c) vacuum relief valves.

#### **1.2**

A T&P valve operates when the temperature sensing element is at 210 °F (99 °C) or less. A device with a higher operating temperature is not acceptable under this Standard.

#### **1.3**

A vacuum relief valve is a single-purpose type.

#### **1.4**

All references to psi throughout this Standard are to be considered gage pressures unless otherwise specified.

#### **1.5**

Clause [9](#) contains provisions that are unique to Canada.

#### **1.6**

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user shall satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.