



CSA/ANSI Z21.96:19 • CSA 11.6:19
National Standard of Canada
American National Standard



Portable water heaters for outdoor use



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Gas Advisory Council*



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Preface

This is the second edition of CSA/ANSI Z21.96 • CSA 11.6, *Portable water heaters for outdoor use*. It supersedes the previous edition published in 2014.

The second edition of this Standard has been updated to reflect current industry practice, and address CSA Group's guide on drafting Standards. Major changes to this edition include the following:

- a) increased maximum input limit for portable water heaters;
- b) addition of input limit for manual (direct) lighting that aligns with this Standard;
- c) unified marking requirements for recreational camping equipment standards;
- d) addition of requirement for appliances operating in low-temperature environments;
- e) alignment of verbiage with the *National Fuel Gas Code* (see Clause 11.1.2);
- f) clarification under burner operating characteristics that flames are not to flash outside the confines of the appliance; and removal of obsolete wire types.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Joint Technical Subcommittee on Gas-Fired Refrigerators and Portable Camping Equipment under the jurisdiction of the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories, and the Strategic Steering Committee on Fuels and Appliances. It has been formally approved by the Z21/83 Technical Committee, the Canadian Technical Committee on Gas Appliances and Related Accessories, and the Interprovincial Gas Advisory Council.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

This Standard has been approved by the American National Standards Institute (ANSI) as an American National Standard.

Interpretations: The Strategic Steering Committee on Fuels and 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 CSA 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) 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.
- 3) This Standard 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 Standard.
- 4) To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:
 - a) define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;
 - b) provide an explanation of circumstances surrounding the actual field condition; and

- c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.

- 5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include “Proposal for change” in the subject line:*
- a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

History of the development of the Standard for Portable water heaters for outdoor use

This Standard combines the applicable sections from the Standard for *Portable Type Camp Heaters*, ANSI Z21.63 • CSA 11.3, and the Standard for *Water Heaters, Volume III* ANSI Z21.10.3 • CSA 4.3. The Standard for *Portable Water Heaters for Outdoor Use*, ANSI Z21.96 • CSA 11.6, addresses construction and performance requirements related to the portable nature of the product including the use of portable gas cylinders and the water heating feature.

At the April 2005 CSA TC/Z21/83 Meeting, it was noted that the Z21/CSA Joint Technical Advisory Group (TAG) on Standards for Refrigerators and Camping Equipment supported a request from CSA International to ask the Committees to approve the development of a new harmonized standard. The proposed standard would be based on CSA International Requirement 3.03 U.S. (Technical Information Letter C-33).

During its September 12, 2006 meeting, the Z21/CSA Joint Technical Advisory Group on Standards for Gas-Fired Refrigerators and Portable Camping Equipment agreed to distribute the draft Standard for *Portable Water Heaters for Outdoor Use* for review and comment during November 2006.

Following reconsideration and modification of this draft standard in the light of comments received, the Z21/CSA Joint Technical Advisory Group on Standards for *Gas-Fired Refrigerators and Portable Camping Equipment* recommended the draft Standard to the CSA Technical Committee and the Z21/83 Technical Committee during its July 19, 2012 meeting.

By letter ballot, the Z21/83 Technical Committee approved the draft Standard for *Portable Water Heaters for Outdoor Use* November 7, 2013 and the CSA Technical Committee approved the draft Standard for *Portable Water Heaters for Outdoor Use* January 9, 2014.

The first edition of the Standard for *Portable Water Heaters for Outdoor Use* was approved by the American National Standards Institute, Inc., on February 26, 2014 and by the Interprovincial Gas Advisory Council on March 10, 2014.

This, the second edition of the Standard for *Portable Water Heaters for Outdoor Use*, was approved by the American National Standards Institute, Inc., on October 11, 2019 and by the Interprovincial Gas Advisory Council on September 5, 2019.

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

CSA/ANSI Z21.96:19 • CSA 11.6:19.

Note: This edition of CSA/ANSI Z21.96 • CSA 11.6 incorporates changes to the 2014 edition.

CSA/ANSI Z21.96:19 • CSA 11.6:19

Portable water heaters for outdoor use

1 Scope

1.1

This Standard applies to portable type gas water heaters (herein after referred to as appliance or water heater) for use with propane, butane, or liquefied petroleum gases and mixtures thereof having

- a) a regulated pressure;
- b) a non-regulated pressure.

1.2

Portable type water heaters and components employing materials or having forms of construction differing from those detailed in these provisions may be examined and tested according to the intent of the provisions, and if found to be satisfactorily equivalent, may be given recognition.

1.3

This Standard applies to portable water heater constructed entirely of new, unused parts.

1.4

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

1.5

All accessories recommended by the manufacturer for use with appliances certified to this Standard are to be supplied and with the appliance.

1.6

A portable water heater is:

- a) for point of use (dishwashing, washing, showering, etc.) supply of either potable or non-potable hot water;
- b) not for permanent connection to inlet or outlet water lines;
- c) only intended for use outdoors and no connections may be provided for venting of combustion products via a chimney or vent system.

1.7

The water heater may be:

- a) tank type;
- b) automatic storage type;
- c) water-tube type;
- d) instantaneous type; or
- e) multifunction design such as an instantaneous-tube type (see Clause 3 Definitions).

1.8

Portable water heaters are limited to a maximum input of 75,000 BTU/hr (21 980 W).