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**ANSI Z21.88-2016 • CSA 2.33-2016**

## **Vented gas fireplace heaters**

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## Vented gas fireplace heaters



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# IGAC

Interprovincial Gas Advisory Council



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# Preface

This is the seventh edition of ANSI Z21.88 • CSA 2.33, *Vented gas fireplace heaters*. It supersedes the previous editions published in 2014, 2009, 2005, 2002, 2000, and 1998.

This Standard was prepared by the Z21/CSA Joint Technical Subcommittee on Standards for Vented Gas-Fired Warm Air Heaters, under the jurisdiction of the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories, the Canadian Technical Committee on Gas Appliances and Related Accessories, and the Strategic Steering Committee on Standards for Fuel Burning Equipment, and had been formally approved by the Technical Committees, American National Standards Institute, and the Interprovincial Gas Advisory Council.

**Interpretations:** The Strategic Steering Committee on Standards for Fuel Burning Equipment 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.*
- 5) *This Standard is subject to review at least every five years; 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](mailto: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.*
- 6) *To submit a request for interpretation of this Standard, please send the following information to [inquiries@csagroup.org](mailto: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.*
- 7) *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](http://standardsactivities.csa.ca).*

## History of the development of the Standard for Vented gas fireplace heaters

**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 19-20, 1995 meeting, the Z21/CGA Joint Subcommittee on Standards for Vented Gas-Fired Warm Air Heaters formed a working group to prepare a draft bi-national standard for Vented Gas Fireplace Heaters. During its October 22-23, 1996 meeting the joint subcommittee approval to send the draft standard for public review and comment.

The first draft harmonized standard was based on current coverage from the *American National Standard/Canadian Gas Association Standard for Vented Gas Fireplace*, ANSI Z21.50-1996 • CGA 2.22-M96, and the *American National Standard/CSA Standard for Vented Gas-Fired Space Heating Equipment*, ANSI Z21.86-1998 • CSA 2.32-M98.

Following reconsideration and modification of the proposed draft standard, in light of comments received, the joint vented heater subcommittee at its March 10-11, 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 vented gas-fireplace heaters, as modified by the joint subcommittee, was approved by the Z21/83 Committee by letter ballot dated August 19, 1997, and by the CGA Standards Steering Committee by letter ballot dated January 5, 1998.

The first edition of the *American National Standard/CSA Standard for Vented Gas Fireplace Heaters* was approved by the Canadian Interprovincial Gas Advisory Council on February 26, 1998, and by the American National Standards Institute, Inc., on March 31, 1998.

The second edition of the *American National Standard/CSA Standard for Vented Gas Fireplace Heaters* was approved by the Canadian Interprovincial Gas Advisory Council on June 1, 2000, and by the American National Standards Institute, Inc., on October 20, 1999.

The third edition of the harmonized *American National Standard/CSA Standard for Vented Gas Fireplace Heaters* was approved by the Canadian Interprovincial Gas Advisory Council on March 18, 2002 and by the American National Standards Institute, Inc., on April 11, 2002.

The fourth edition of the harmonized *American National Standard/CSA Standard for Vented Gas Fireplace Heaters* was approved by the Canadian Interprovincial Gas Advisory Council on December 2, 2005 and by the American National Standards Institute, Inc., on October 19, 2005.

Following the procedures outlined above further revisions to this Standard were made in line with industry developments.

The fifth edition of the harmonized *American National Standard/CSA Standard for Vented Gas Fireplace Heaters* was approved by the Interprovincial Gas Advisory Council on December 29, 2009 and by the American National Standards Institute, Inc., on March 26, 2009.

The sixth edition of the *Standard for Vented gas fireplace heaters* was approved by the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories on December 20, 2013; the CSA Technical Committee on Gas Appliances and Related Accessories on October 30, 2013; the IGAC on February 18, 2014; and ANSI on February 20, 2014.

This, the seventh edition of the *Standard for Vented gas fireplace heaters* was distributed for industry review and comment dated July 2013, July 2014, and December 2014; and subsequently approved by the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Related Accessories on August 29, 2016; the CSA Technical Committee on Gas Appliances and Related Accessories on October 25, 2016; the IGAC on September 15, 2016; and ANSI on November 2, 2016.

The previous editions of the vented gas fireplace heaters standard, and addenda thereto, approved by the Interprovincial Gas Advisory Council and American National Standards Institute, Inc. are as follows:

ANSI Z21.88-1998 • CSA 2.33-M98	ANSI Z21.88a-1998 • CSA 2.33a-M98 ANSI Z21.88b-1999 • CSA 2.33b-M99
ANSI Z21.88-2000 • CSA 2.33-2000	ANSI Z21.88a-2000 • CSA 2.33a-2000 ANSI Z21.88b-2001 • CSA 2.33b-2001
ANSI Z21.88-2002 • CSA 2.33-2002	ANSI Z21.88a-2003 • CSA 2.33a-2003 ANSI Z21.88b-2003 • CSA 2.33b-2003
ANSI Z21.88-2005 • CSA 2.33-2005	ANSI Z21.88a-2007 • CSA 2.33a-2007 ANSI Z21.88b-2008 • CSA 2.33b-2008
ANSI Z21.88-2009 • CSA 2.33-2009	ANSI Z21.88a-2012 • CSA 2.33a-2012
ANSI Z21.88-2014 • CSA 2.33-2014	

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

ANSI Z21.88-2016 • CSA 2.33-2016

**Note:** *This edition of ANSI Z21.88 • CSA 2.33 incorporates changes to the 2014 edition and addenda thereto. Changes, other than editorial, are denoted by a delta symbol in the margin.*

# ANSI Z21.88-2016 • CSA 2.33-2016

## Vented gas fireplace heaters

### 1 Scope

#### Δ 1.1

This Standard applies to newly produced vented gas fireplace heaters (see Clause 3, Definitions), hereinafter referred to as appliance(s), constructed entirely of new, unused parts and materials, and having input ratings up to and including 400,000 Btu/hr (117 228 W):

- a) for use with natural gas;
- b) for use with propane;
- c) direct vent appliances for manufactured home (USA only) or mobile home OEM installation convertible for use with natural gas and propane when provision is made for simple conversion from one gas to the other [see Clause 4.1.4a) and (b)];
- d) direct vent appliances for manufactured home (USA only) or mobile home aftermarket installation for use with natural gas only or propane gas only [see Clause 4.1.4b)];
- e) direct vent appliances for recreational vehicle installation for use with propane gas only [see Clause 4.1.4c)];
- f) direct vent appliances for recreational vehicle installation only convertible for use with natural gas and propane gas when provision is made for the simple conversion from one gas to the other [see Clause 4.1.4c)]; and
- g) for direct vent appliances for manufactured home (USA only) or mobile home OEM installation for use with propane gas only [see Clause 4.1.4a)].

The construction of vented gas fireplace heaters and vented gas fireplace heaters with cooling units for use with the above-mentioned gases is covered under Clause 4, Construction.

The performance of vented gas fireplace heaters and vented gas fireplace heaters with cooling units for use with the above-mentioned gases is covered under Clause 5, Performance.

#### 1.2

Annex A, Automatic intermittent pilot ignition systems for field installation, includes provisions for newly produced (optional) automatic intermittent pilot ignition systems (see Clause 3, Definitions), constructed entirely of new, unused parts and materials, to be adapted in the field to an appliance equipped with an existing continuous pilot burner and which has been examined and tested for compliance with this Standard when installed on the appliance.

#### 1.3

If a value for measurement given in this standard is followed by an equivalent value in other units, the first stated value is to be regarded as the specification.

#### 1.4

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

## 1.5

Clause 7, Items unique to the United States, contains provisions that are unique to the United States.

## 1.6

Clause 8, Items unique to Canada, contains provisions that are unique to Canada.

## 1.7

This Standard also applies to appliances with draft hoods that are factory-equipped with automatic vent damper devices (see Clause 3, Definitions), hereinafter referred to as vent damper devices.

## 1.8

Special construction provisions applicable to vented gas fireplace heaters designed for use with an optional design-certified conversion kit are outlined under Annex B, Provisions for listed gas appliance conversion kits (optional).

## 1.9

Clause 2, Reference publications, contains a list of standards specifically referenced in this Standard and sources from which they may be obtained.

## 1.10

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.

## 2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

### CSA Group

ANSI Z21.12-1990 (R2000) and Addenda ANSI Z21.12a-1993 (R2000), ANSI Z21.12b-1994 (R2000)  
*Draft Hoods*

ANSI Z21.15-2009 (R2014) • CSA 9.1-2009 (R2014) and Addenda ANSI Z21.15a-2012 (R2014)• CSA 9.1a-2012 (R2014)

*Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves*