ANSI Z21.76-2016

CSA Group

Gas-fired unvented catalytic room heaters for use with propane gas

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Revision History

ANSI Z21.76-2016, Gas-fired unvented catalytic room heaters for use with propane gas

Revision from previous edition	Revision symbol (in margin)
Clauses 1.1, 4.7.9, 4.14.1, 4.14.2, 4.15.2, 4.15.6, 4.15.8, 4.15.11, 4.15.13, and 5.1.1 Annexes A, B, G, and I	Δ

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ANSI Z21.76-2016

Gas-fired unvented catalytic room heaters for use with propane gas

American National Standards Institute, Inc.

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B.J. Swiecicki	National Propane Gas Association, Frankfort, Illinois, USA *Category: Gas Supplier*	*Chair*
M.W. Wilber	Crane Engineering, Plymouth, Minnesota, USA *Category: General Interest*	*Vice-Chair*
M. Ali	Association of Home Appliance Manufacturers (AHAM), Washington, District of Columbia, USA	*Alternate*
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M. Diesch	Lennox International Inc., Carrollton, Texas, USA *Category: Manufacturer*	
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G.A. Gress	International Code Council (ICC), Country Club Hills, Illinois, USA *Category: Regulatory Code*	

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T.F. Hardin	Underwriters Laboratories Inc., Research Triangle Pk, North Carolina, USA	*Alternate*
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R.A. Jordan	Consumer Product Safety Commission, Rockville, Maryland, USA	*Non-voting*
S. Kristjansson	Sempra Energy Utility, Los Angeles, California, USA	*Alternate*
A. Lanier Papageorge	AGL Resources Inc., Atlanta, Georgia, USA *Category: Gas Supplier*	
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J.A. Ranfone	American Gas Association Inc., Washington, District of Columbia, USA *Category: Gas Supplier*	

N.W. Rolph	Lochinvar, LLC, Lebanon, Tennessee, USA	*Alternate*
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A.B. Sherwin	St. Louis Community College, St. Louis, Missouri, USA *Category: Consumer/User Interest*	
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C. Souhrada	North American Association of Food Equipment Manufacturers, Chicago, Illinois, USA *Category: Manufacturer*	
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T. Stroud	Hearth Patio & Barbecue Association, Seattle, Washington, USA *Category: General Interest*	
C. Suchovsky	Burner Technology Unlimited, Inc., Walton Hills, Ohio, USA *Category: General Interest*	
H. Virgil	Brownsburg, Indiana, USA *Category: Consumer/User Interest*	
M.B. Williams	Association of Home Appliance Manufacturers (AHAM), Washington, District of Columbia, USA *Category: Manufacturer*	
L.B. Willmore	Southern California Gas Company, Los Angeles, California, USA *Category: Gas Supplier*	
L. McCourt	CSA Group, Cleveland, Ohio, USA	*Project Manager*

Z21 Technical Subcommittee on Standards for Unvented Gas-Fired Heating Appliances

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D.C. Delaquila	Aquila Consulting, LLC, Warren, Ohio, USA	*Vice-Chair*
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K.S. Dorrough	Rinnai America Corporation, Peachtree City, Georgia, USA	*Alternate*
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R. Freeman	Freeman Gas, Spartanburg, South Carolina, USA	

G. Fu	Thermablaster, Pittsburgh, Pennsylvania, USA	*Alternate*
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R.A. Jordan	Consumer Product Safety Commission, Rockville, Maryland, USA	*Non-voting*
P. Kelly	Monessen Hearth Systems Company, Paris, Kentucky, USA	*Alternate*
K. Kirchner	Continental Appliance, Inc. dba Procom, Smyrna, Georgia, USA	*Alternate*
K. Leason	Continental Appliance, Inc. dba Procom, Brea, California, USA	
R. Mateos Martin	Copreci S. Coop, Marietta, Georgia, USA	
S. McTier	Propane Technologies LLC, Lake Forest, Illinois, USA	
M.S. Mulberry	Sure Heat Manufacturing, Bowling Green, Kentucky, USA	*Alternate*
M. Neufcourt	Air-Conditioning, Heating, and Refrigeration Institute, Arlington, Virginia, USA	
T. O'Leary	Skytech Products Group, Ft. Wayne, Indiana, USA	
C. Olds	PERC, Washington, District of Columbia, USA	

R. Rasmussen	Rasmussen Iron Works, Inc., Whittier, California, USA	
C. Richards	Catalytic Heater Company, Terrell, Texas, USA	
R. Robben	Laclede Gas Company, St. Louis, Missouri, USA	
J.J. Schlachter	Maxitrol Company, Southfield, Michigan, USA	
D. Shoman	PFS Corporation, Keller, Texas, USA	
F.A. Stanonik	Air-Conditioning, Heating, and Refrigeration Institute, Arlington, Virginia, USA	*Alternate*
T. Stroud	Hearth Patio & Barbecue Association, Seattle, Washington, USA	
C. Suchovsky	Burner Technology Unlimited, Inc., Walton Hills, Ohio, USA	
J.S. Thomas	Sure Heat Manufacturing, Bowling Green, Kentucky, USA	
W. Thuenemann	Empire Comfort Systems, Inc., Belleville, Illinois, USA	*Alternate*
J. Vancak	Calcana Industries Ltd., Calgary, Alberta, Canada	
B. Vandrak	Enerco/Mr. Heater Corporation, Cleveland, Ohio, USA	
E. Wolf	Cavagna North America, Mansfield, Ohio, USA	
M. Yan	Robert H. Peterson Company, City of Industry, California, USA	
J. York	Rinnai America Corporation, Peachtree City, Georgia, USA	

B. Zimmerman Underwriters Laboratories Inc.,
Northbrook, Illinois, USA

L. McCourt CSA Group, *Project Manager*
Cleveland, Ohio, USA

Preface

This is the fourth edition of ANSI Z21.76, *Gas-fired unvented catalytic room heaters for use with propane gas*. It supersedes the previous editions published in 1994, 1991, and 1988.

This Standard was prepared by the Z21 Technical Subcommittee on Standards for Unvented Gas-Fired Heating Appliances under the jurisdiction of the Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Accessories, and had been formally approved by the Technical Committee and the American National Standards Institute.

Interpretations: The Z21/83 Technical Committee on Performance and Installation of Gas Burning Appliances and Accessories 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 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.*

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 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 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.*

History of the development of the Standard for Gas-Fired Unvented Catalytic Heaters for use with Propane Gas

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

At its March 28-30, 1983 meeting, the Z21 Subcommittee on Standards for Unvented Gas-Fired Heating Appliances agreed standards coverage for unvented catalytic room heaters should be developed in view of the increasing market for such appliances. The subcommittee appointed a working group, comprised of several subcommittee members and interested individuals, to develop coverage for these types of appliances for use with natural and liquefied petroleum (LP) gases. It was initially intended the necessary coverage for these heaters would be added to the existing Standard for Gas-Fired Room Heaters, Volume II, Unvented Room Heaters, ANSI Z21.11.2. However, the working group concluded this type of appliance could best be addressed in a separate standard.

It was also decided to first develop a standard for unvented catalytic heaters for use with LP-gases since the majority of experience was with such heaters for use with these fuel gases. The development of standards coverage for gas-fired unvented catalytic room heaters for use with natural gas would be undertaken when the LP-gas heater standard was completed.

A draft standard for unvented catalytic room heaters for use with LP-gas was developed by the working group at a series of meetings. It was subsequently adopted by the unvented heater subcommittee at its December 18, 1985 meeting and distributed for industry review during May 1986. At its December 2-3, 1986 meeting, following reconsideration and modification of the draft standard in light of comments received, the unvented heater subcommittee recommended the draft standard to the Z21 Committee.

The Z21 Committee, at its April 7, 1987 meeting, adopted the draft standard for submittal to the American National Standards Institute, Inc., for consideration of approval as American National Standard.

The first edition of the standard for unvented catalytic room heaters for use with liquefied petroleum (LP) gases was approved by the American National Standards Institute, Inc., in 1988.

The second edition of the standard for unvented catalytic room heaters for use with liquefied petroleum (LP) gases was approved by the American National Standards Institute, Inc., in 1991.

Following the procedure outlined above, further revisions to this Standard, Z21.76 were developed in line with industry developments. The third edition of the unvented catalytic room heater standard was approved as American National Standard by the American National Standards Institute, Inc., on December 5, 1994.

This, the fourth edition of the unvented catalytic room heater standard was distributed for industry review during August 2012 and November 2013; approved by the Z21/83 Technical Committee on September 23, 2016; and formally approved by the American National Standards Institute, Inc. on November 7, 2016.

The previous editions of the unvented catalytic room heater standard, and addenda thereto, approved by the American National Standards Institute, Inc., are as follows:

ANSI Z21.76-1988
ANSI Z21.76a-1989
ANSI Z21.76b-1990
ANSI Z21.76-1991
ANSI Z21.76a-1992
ANSI Z21.76b-1993
ANSI Z21.76-1994
ANSI Z21.76a-1996
ANSI Z21.76b-1997

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

ANSI Z21.76-2016

Note: *This, the 2016 edition of ANSI Z21.76, incorporates changes to the 1994 edition and addenda. Changes, other than editorial, are denoted by a delta in the margin.*

ANSI Z21.76-2016
Gas-fired unvented catalytic room heaters for use with propane gas

1 Scope

Δ **1.1**

This Standard applies to newly produced unvented catalytic room heaters (see Clause 3, Definitions), hereinafter referred to as heaters, constructed entirely of new, unused parts and materials, having input ratings up to and including 40,000 Btu per hour (11 723 W) for use with propane gas, except:

a) heaters suitable for installation in bedrooms are to have input ratings of 10,000 Btu (2 931 W) per hour or less; and
b) heaters suitable for installation in bathrooms are to have input ratings of 6,000 Btu per hour (1 758 W) or less.

Unvented catalytic room heaters for installation in bedrooms or bathrooms are to be wall-mounted.

The construction of unvented catalytic room heaters for use with propane gas is covered under Clause 4.

The performance of unvented catalytic room heaters for use with propane gas is covered under Clause 5.

1.2

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

1.3

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

1.4

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

1.5

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to 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 (nonmandatory) 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 Z21.15-2009 • CSA 9.1-2009 (R2014)
Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves

ANSI Z21.18-2007 • CSA 6.3-2007 (R2012)
Gas Appliance Pressure Regulators

ANSI Z21.20-2005
Automatic Gas Ignition Systems and Components

ANSI Z21.21-2015 • CSA 6.5-2015
Automatic Valves for Gas Appliances

ANSI Z21.23-2010
Gas Appliance Thermostats

ANSI Z21.77-2005 • CSA 6.23-2005 (R2015)
Manually Operated Piezo-Electric Spark Gas Ignition Systems and Components

ANSI (American National Standards Institute)

ANSI C101.1-1992
Leakage Current for Appliances

ANSI Y14.15-1966 (R1988), and Addenda, ANSI Y14.15a-1971 and ANSI Y14.15b-1973
Electrical and Electronics Diagrams

ASME (American Society of Mechanical Engineers)

ANSI/ASME B1.1-2003
Unified Inch Screw Threads (UN and UNR Thread Form)

ANSI/ASME B1.20.1-2013
Pipe Threads, General Purpose (Inch)

ANSI/ASME B36.10M-2004
Welded and Seamless Wrought Steel Pipe

ANSI/ASME PTC 19.3-1974 (R2004)
Performance Test Codes-Temperature Measurement

