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CSA/ANSI Z21.18:19 • CSA 6.3:19
National Standard of Canada
American National Standard

Gas appliance pressure regulators

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Revision History

CSA/ANSI Z21.18:19 • CSA 6.3:19, Gas appliance pressure regulators

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Preface

This is the fourth edition of CSA/ANSI Z21.18 • CSA 6.3, *Gas appliance pressure regulators*. It supersedes the previous editions published in 2007, 2000, and 1995.

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

This Standard was prepared by the Z21/CSA Joint Technical Subcommittee on Automatic Gas Controls, 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 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.

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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.*
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History of the development of Gas appliance pressure regulators

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.

With the formation of joint subcommittees, a Canadian Gas Association Standards Steering Committee on Gas Burning Appliances and Related Accessories was established to parallel Accredited Standards Committees Z21 and Z83, and to support the formation of joint subcommittees. Operating procedures, in accordance with American National Standards Institute procedures, for joint subcommittees were developed and subsequently approved by ANSI on April 1, 1993.

At its July 14, 1993 meeting, the Joint Automatic Gas Controls Subcommittee adopted ANSI Z21.18 for distribution for review and comment as a harmonized standard, in that Z21.18 and CAN1-6.3 were identical in content. The first draft harmonized gas appliance pressure regulator standard was distributed for review and comment during March 1994.

Following reconsideration and modification of the proposed harmonized draft standard for gas appliance pressure regulators, in light of comments received, the joint automatic gas controls subcommittee, at its July 14, 1994 meeting, recommended the proposed standard to the Z21 Committee and the CGA Standards Steering Committee, for approval.

The proposed harmonized standard for gas appliance pressure regulators was approved by the Z21 Committee by letter ballot dated January 17, 1995. The CGA Standards Steering Committee approved the proposed harmonized standard for automatic gas valves by letter ballot dated April 13, 1995.

The first edition of the harmonized Z21/CGA Standard for Gas Appliance Pressure Regulators was approved by the Canadian Interprovincial Gas Advisory Council on October 18, 1995 and by the American National Standards Institute, Inc., on November 15, 1995.

The second edition of the harmonized Z21/CSA Standard for Gas Appliance Pressure Regulators was approved by the Canadian Interprovincial Gas Advisory Council on August 22, 2000, and by the American National Standards Institute, Inc., on September 27, 2000.

The third edition of the harmonized Z21/CSA Standard for Gas Appliance Pressure Regulators was approved by the Canadian Interprovincial Gas Advisory Council on September 14, 2007, and by the American National Standards Institute, Inc., on July 19, 2007.

This, the fourth edition of the harmonized Z21/CSA Standard for Gas Appliance Pressure Regulators, was approved by the Canadian Interprovincial Gas Advisory Council on October 20, 2018, and by the American National Standards Institute, Inc., on February 4, 2019.

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

ANSI Z21.18-1995 • CGA 6.3-M95
ANSI Z21.18a-1998 • CGA 6.3a-M98
ANSI Z21.18b-2000 • CGA 6.3b-M00
Z21.18-2000 • CSA 6.3-2000
ANSI Z21.18a-2001 • CSA 6.3a-2001
ANSI Z21.18b-2005 • CSA 6.b-2005
ANSI Z21.18-2007 • CSA 6.3-2007
ANSI Z21a-2010 • CSA 6.3a-2010
ANSI Z21b-2012 • CSA 6.3b-2010

The following identifies the designation and year of the harmonized standard:

CSA/ANSI Z21.18:19 • CSA 6.3:19

Note: *This edition of CSA/ANSI Z21.18 • CSA 6.3 incorporates changes to the 2007 edition and addenda thereto. Changes, other than editorial, are denoted by a delta in the margin.*

CSA/ANSI Z21.18:19 • CSA 6.3:19
Gas appliance pressure regulators

1 Scope

1.1

This Standard applies to individual gas appliance pressure regulators, which are not a part of a combination control (see Clause 3, Definitions), constructed entirely of new, unused parts and materials, hereinafter referred to as regulators, intended for application on individual gas appliances.

This Standard also applies to negative gas appliance pressure regulators (see Clause 3, Definitions). The performance of negative pressure regulators is covered under Clause 6 of this Standard.

Compliance of a device with this Standard does not imply that such device is acceptable for use on gas appliances without supplemental tests with the device applied to the particular appliance design.

Components performing functions other than those of a gas appliance pressure regulator comply with the applicable American National Standards.

1.2

This Standard applies to regulators for operations with natural, manufactured and mixed gases, liquefied petroleum gases, and LP gas-air mixtures.

1.3

This standard applies to regulators classified in accordance with their intended application with reference to inlet pressures as follows:

Rated inlet pressure	
½ psi	(3.5 kPa)
2 psi	(13.8 kPa)
5 psi	(34.5 kPa)

1.4

This Standard applies to regulators for the following general types of application:

a) main burner load application;
b) pilot burner load application;
c) main burner and pilot burner load application to control a minimum pilot flow rate of:
   i) 0.15 ft^3/hr (1.18 cm^3/s); or
   ii) 0.50 ft^3/hr (3.93 cm^3/s); or
d) domestic range application (see Clause 5.11, Regulators for use on domestic gas ranges).

1.5

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.

