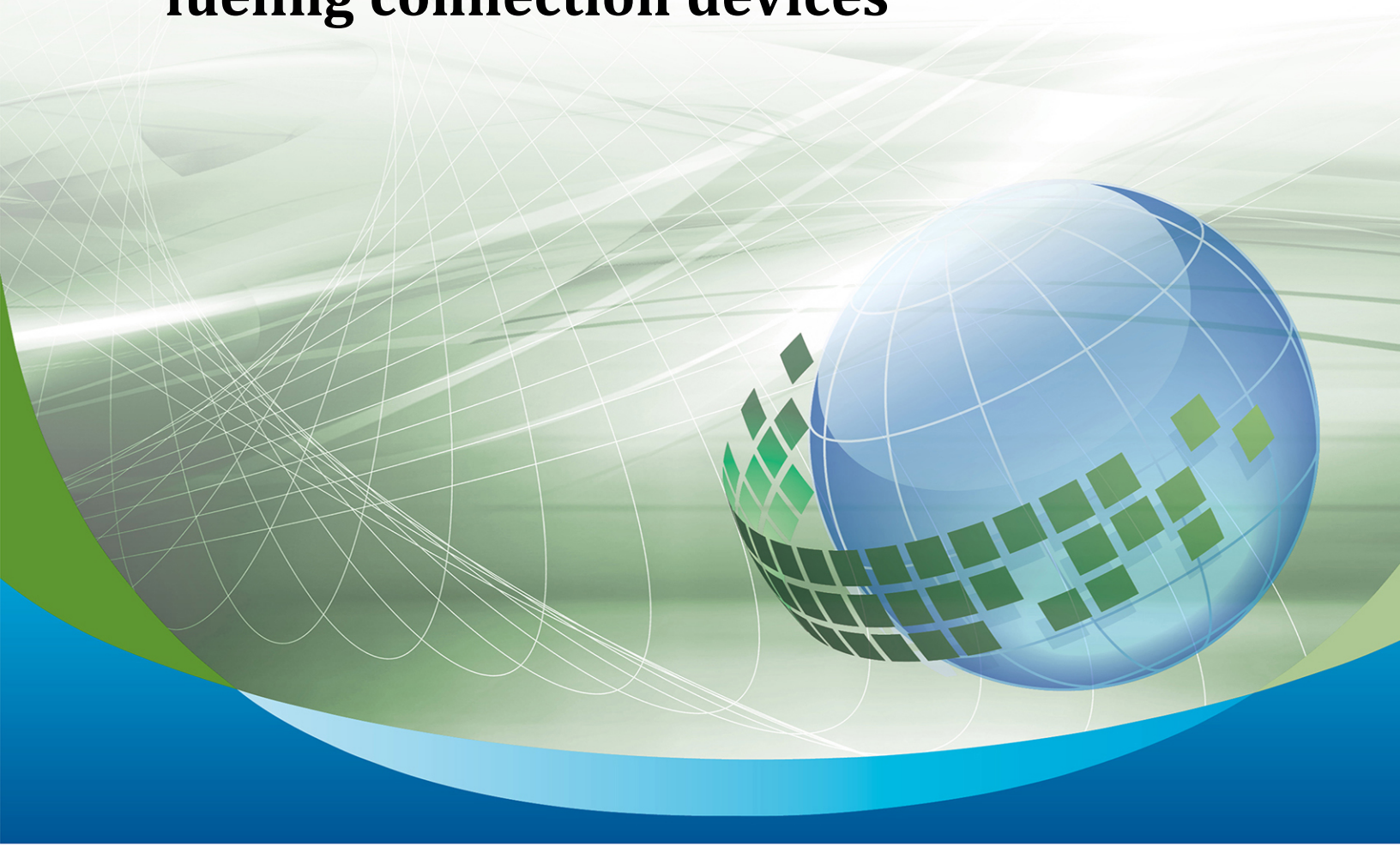
CSA Group

CSA/ANSI NGV 1-2017

Compressed natural gas vehicle (NGV) fueling connection devices



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CSA/ANSI NGV 1-2017
Compressed natural gas vehicle (NGV) fueling connection devices

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IGAC

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CSA Group

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Preface

This is the third edition of CSA/ANSI NGV 1, *Compressed natural gas vehicle (NGV) fueling connection devices*. It supersedes the previous editions published in 2006 and 1998.

P36HD nozzles designed in accordance with this Standard will not be compatible with existing P36 heavy duty applications using C200 (ISO 14469) receptacles, equivalent to P30HD (see Figure 6).

This Standard was prepared by the NGV 1 Technical SubCommittee on Standards for Natural Gas Fueling Vehicle Receptacle and Fueling Connection Devices, under the jurisdiction of the Automotive Technical Committee and JB112 Natural Gas Powered Vehicles and Fueling Technical Committee and has been formally approved by the Technical Committees, American National Standards Institute and the Interprovincial Gas Advisory Council.

Interpretations: The Automotive Technical Committee 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.*
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   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.

CSA/ANSI NGV 1-2017
Compressed natural gas vehicle (NGV) fueling connection devices

1 Scope

1.1

This Standard applies to newly produced compressed Natural Gas Vehicle (NGV) fueling connection devices, hereinafter referred to as "devices", constructed entirely of new, unused parts and materials. NGV fueling connection devices consist of the following components, as applicable:

a) receptacle and protective cap (mounted on vehicle) (see Clause 4.4);
b) nozzle (see Clause 4.2); and
c) three-way valve (external to nozzle and mounted in the fuel dispenser system) (see Clause 4.5).

1.2

This Standard applies to devices that have a service pressure of either 8300 kPa (1200 psi), 16 500 kPa (2400 psi), 20 700 kPa (3000 psi), or 24 800 kPa (3600 psi), hereinafter referred to in this Standard as the following (see Clause 4.8.3 c)):

"P12"	-	8300 kPa (1200 psi)
"P24"	-	16 500 kPa (2400 psi)
"P30" and "P30HD"	-	20 700 kPa (3000 psi)
"P36" and "P36HD"	-	24 800 kPa (3600 psi)

The "HD" suffix designates a larger geometry version to allow higher flow rates associated with fueling larger heavy duty applications.

1.3

This Standard applies to devices with standardized mating components (see Clauses 4.4.6 and 4.6).

1.4

This Standard applies to devices that:

a) prevent natural gas vehicles from being fueled by a dispenser with service pressures higher than the vehicle it was designed for;
b) allow natural gas vehicles to be fueled by a dispenser with service pressures equal to or lower than the vehicle fuel system service pressure; and
c) prevent light duty natural gas vehicles from being fueled by a heavy duty dispenser.

1.5

This Standard does not apply to repaired or rebuilt nozzles.

1.6

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

1.7

Units of measure

This Standard contains SI (metric) units with corresponding yard/pound quantities, the purpose being to allow the Standard to be used in yard/pound 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 conversion.) 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.

1.8

Terminology

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 amendments published thereto.

CSA Group

B108-14
Compressed natural gas fuelling stations installation code

B109-14
Natural Gas for Vehicles Installation Code - Part 1 Compressed Natural Gas

B149.1-2015
Natural gas and propane installation code

ASTM International

B117-16
Standard Practice for Operating Salt Spray (Fog) Apparatus