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NSAI Standards

Irish Standard
I.S. EN ISO 16923:2018

Natural gas fuelling stations - CNG stations for fuelling vehicles (ISO 16923:2016)

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National Foreword

I.S. EN ISO 16923:2018 is the adopted Irish version of the European Document EN ISO 16923:2018, Natural gas fuelling stations - CNG stations for fuelling vehicles (ISO 16923:2016)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 16923

April 2018

ICS 75.200

English Version

Natural gas fuelling stations - CNG stations for fuelling vehicles (ISO 16923:2016)

Stations-service de gaz naturel - Stations GNC pour le ravitaillement de véhicules (ISO 16923:2016)

Erdgastankstellen - CNG-Tankstellen zur Betankung von Fahrzeugen (ISO 16923:2016)

This European Standard was approved by CEN on 26 January 2018.

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European foreword

The text of ISO 16923:2016 has been prepared by ISO/TMBG "Technical Management Board - groups" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 16923:2018 by Technical Committee CEN/TC 326 "Natural Gas Vehicles - Fuelling and Operation" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2018, and conflicting national standards shall be withdrawn at the latest by October 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document has been prepared under the standardization request M/533 given to CEN by the European Commission and the European Free Trade Association in the framework of Directive 2014/94/EU on the deployment of alternative fuels infrastructure.

The standardization request M/533 focuses on interoperability aspects of the alternative fuels infrastructure, which for CNG fuelling stations are covered in this document by the following items:

— Fuelling pressure (service pressure): This document applies a fuelling pressure of 20,0 MPa gauge (200 bar) at 15 °C. This document allows possible higher fuelling pressures if the necessary requirements as provided are met accordingly. When adopting the fuelling pressure of 20,0 MPa at 15 °C, the maximum fuelling pressure can be 26,0 MPa with "temperature compensation".

— Connector profile: The harmonized connector profile is described in EN ISO 14469:2017, that specifies CNG refuelling nozzles and receptacles constructed entirely of new and unused parts and materials, for road vehicles powered by CNG, and which is referenced in this document as well as included in UN/ECE Regulation N° 110. EN ISO 14469:2017 refers to fuelling pressures of 20 MPa and 25 MPa for both "size 1" (B200 and B250) and "size 2" (C200 and C250).

In addition to interoperability aspects, the following aspects are relevant for applying this document in Europe:

— Fuel quality: The quality of CNG for use as automotive fuel is covered in EN 16723-2:2017, that specifies the requirements and test methods for natural gas, biomethane and blends of both.

— Fuel labelling: The fuel label for CNG at dispensers is covered by EN 16942:2016, that lays down harmonized identifiers for marketed liquid and gaseous fuels, and which has also been developed to support Directive 2014/94/EU.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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Endorsement notice

The text of ISO 16923:2016 has been approved by CEN as EN ISO 16923:2018 without any modification.

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Annex A
(informative)

A-deviation

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN-CENELEC national member.

This European Standard does not fall under any Directive of the EU.

In the relevant CEN-CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

Country	Clause	Deviation
ITALY	Annex B (normative) Separation distances B.3 Internal Separation distances, Table B.1 – Internal separation distances	According to Italian legislation concerning rules of fire prevention for the design, construction and operation of stations for fuelling compressed natural gas (CNG) to vehicles, the internal safety distances are higher than those prescribed in the standard Ministerial Decree of 24th May 2002 (published on the Official Journal of the Italian Republic n. 131 of 6th June 2002), as amended by Ministerial Decree of 28th June 2002 (published on the Official Journal of the Italian Republic n. 161 of 11th July 2002)

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INTERNATIONAL STANDARD

ISO 16923

First edition
2016-12-15

Natural gas fuelling stations — CNG stations for fuelling vehicles

Stations-service de gaz naturel — Stations GNC pour le ravitaillement de véhicules

Reference number
ISO 16923:2016(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/PC 252, *Natural gas fuelling stations for vehicles*.

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Natural gas fuelling stations — CNG stations for fuelling vehicles

1 Scope

This document covers the design, construction, operation, inspection and maintenance of stations for fuelling compressed natural gas (CNG) to vehicles, including equipment, safety and control devices.

This document also applies to portions of a fuelling station where natural gas is in a gaseous state and dispensing CNG derived from liquefied natural gas (LCNG) according to ISO 16924.

This document applies to fuelling stations supplied with natural gas as defined in local applicable gas composition regulations or ISO 13686. It also applies to other gases meeting these requirements including biomethane, upgraded coal-bed methane (CBM) and gas supplies coming from LNG vaporization (on-site or off-site).

This document includes all equipment for downstream gas supply connection (i.e. point of separation between the CNG fuelling station piping and the pipeline network). Fuelling station nozzles are not defined in this document.

This document covers fuelling stations with the following characteristics:

— slow fill;

— fast fill;

— private access;

— public access (self-service or assisted);

— fuelling stations with fixed storage;

— fuelling stations with mobile storage (daughter station);

— multi-fuel stations.

This document is not applicable to domestic CNG fuelling devices without buffer storage.

NOTE This document is based on the condition that the gas entering the fuelling station is odorized. For unodorized gas fuelling stations, additional safety requirements are included in Clause 10.

2 Normative references

The following documents are referred to in text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 834-1, *Fire-resistance tests — Elements of building construction — Part 1: General requirements*

ISO 4126-1, *Safety devices for protection against excessive pressure — Part 1: Safety valves*

ISO 8580, *Rubber and plastics hoses — Determination of ultra-violet resistance under static conditions*

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