ICS 75.200 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2026

STN	**Plniace stanice na zemný plyn Plniace stanice LNG na plnenie cestných vozidiel (ISO 16924: 2026)**	**STN EN ISO 16924** 30 2324

Natural gas fuelling stations - Liquefied natural gas (LNG) stations for fuelling road vehicles (ISO 16924:2026)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/26

Obsahuje: EN ISO 16924:2026, ISO 16924:2026

Oznámením tejto normy sa ruší
STN EN ISO 16924 (30 2324) z novembra 2018

obsahuje farebné strany

142255

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 16924

January 2026

ICS 75.200 Supersedes EN ISO 16924:2018

English Version

Natural gas fuelling stations - Liquefied natural gas (LNG) stations for fuelling road vehicles (ISO 16924:2026)

Stations-service de gaz naturel - Stations de gaz naturel liquéfié (GNL) pour le ravitaillement de véhicules routiers (ISO 16924:2026)

Gasfüllanlagen - LNG Füllanlagen zur Betankung von Fahrzeugen (ISO 16924:2026)

This European Standard was approved by CEN on 4 January 2026.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 16924:2026 E

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European foreword

This document (EN ISO 16924:2026) has been prepared by Technical Committee ISO/TC 340 "Natural gas fuelling stations" in collaboration with Technical Committee CEN/TC 326 “Natural gas vehicles - Fuelling and operation” the secretariat of which is held by TSE.

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of an identical text or by endorsement, at the latest by July 2026, and conflicting national standards shall be withdrawn at the latest by July 2026.

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 supersedes EN ISO 16924:2018.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 16924:2026 has been approved by CEN as EN ISO 16924:2026 without any modification.

International Standard

ISO 16924

Natural gas fuelling stations — Liquefied natural gas (LNG) stations for fuelling road vehicles

Stations-service de gaz naturel — Stations de gaz naturel liquéfié (GNL) pour le ravitaillement de véhicules routiers

Second edition
2026-01

Reference number
ISO 16924:2026(en)

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Published in Switzerland

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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 document 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).

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For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 340, *Natural gas fuelling stations,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 326, *Natural gas vehicles – Fuelling and operation,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16924:2016), which has been technically revised.

The main changes are as follows:

— revision of content based on operating experience and accident review, e.g. limited use of detachable joints, use of fire-safe gaskets, use of gas detectors in critical areas;

— addition of requirements for the interface between the liquified natural gas (LNG) road tanker and LNG fuelling station with reference to EN 17922 (LNG unloading stop system);

— addition of requirements for multi-fuel stations with reference to CEN-CENELEC GUIDE 38;

— addition of requirements to prohibit venting to the atmosphere;

— revision of Figures A.1 and A.2;

— deletion of Figure A.3;

— deletion of Annex K;

— addition of Annex L.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

International Standard **ISO 16924:2026(en)**

Natural gas fuelling stations — Liquefied natural gas (LNG) stations for fuelling road vehicles

1 Scope

This document specifies requirements for the design, construction, operation, maintenance and inspection of stations for fuelling liquefied natural gas (LNG) to vehicles, including equipment, safety and control devices. This document also specifies the design, construction, operation, maintenance and inspection of fuelling stations using LNG as an onsite source for supplying compressed natural gas (CNG) to vehicles, commonly referred to as liquefied-to-compressed natural gas (LCNG) fuelling stations, including safety and control devices of the station and specific LCNG fuelling station equipment.

NOTE Specific CNG equipment is dealt with in ISO 16923.

This document is applicable to fuelling stations receiving LNG and other liquefied methane-rich gases such as bio LNG which comply with local applicable gas composition regulations or with the gas quality requirements of ISO 13686.

This document covers all equipment from the LNG storage tank unloading connection up to (but not including) the fuelling nozzle on the vehicle. The LNG storage tank unloading connection itself and the vehicle fuelling nozzle are not covered in this document.

This document applies to fuelling stations having the following characteristics:

— private access;

— public access (self-service or assisted);

— metered dispensing and non-metered dispensing;

— fuelling stations with fixed LNG storage;

— fuelling stations with mobile LNG storage;

— movable fuelling stations;

— mobile fuelling stations;

— multi-fuel stations.

This document does not apply to:

— equipment, piping, or tubing downstream of the gas pressure regulator for closed boil-off gas systems;

— liquefaction equipment.

2 Normative references

The following documents are referred to in the 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 4126 (all parts), *Safety devices for protection against excessive pressure*

ISO 9606-1, *Qualification testing of welders — Fusion welding — Part 1: Steels*

ISO 10380, *Pipework — Corrugated metal hoses and hose assemblies*

ISO 10497, *Testing of valves — Fire type-testing requirements*

ISO 12100, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 12617, *Road vehicles — Liquefied natural gas (LNG) refuelling connector — 3,1 MPa connector*

ISO 13709, *Centrifugal pumps for petroleum, petrochemical and natural gas industries*

ISO 15609-1, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding*

ISO 15609-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 2: Gas welding*

ISO 16923, *Natural gas fuelling stations — CNG stations for fuelling vehicles*

ISO 20421-1, *Cryogenic vessels — Large transportable vacuum-insulated vessels — Part 1: Design, fabrication, inspection and testing*

ISO 20816-1, *Mechanical vibration — Measurement and evaluation of machine vibration*

ISO 21009-1, *Static vacuum-insulated vessels, Part 1: Design, fabrication, inspection and tests*

ISO 21011, *Cryogenic vessels — Valves for cryogenic service*

ISO 21012, *Cryogenic vessels — Hoses*

ISO 21013-3, *Cryogenic vessels — Pressure-relief accessories for cryogenic service — Part 3: Sizing and capacity determination*

ISO 21029-1, *Cryogenic vessels — Transportable vacuum insulated vessels of not more than 1 000 litres volume — Part 1: Design, fabrication, inspection and tests*

ISO 24490, *Cryogenic vessels — Pumps for cryogenic service*

ISO 31000, *Risk management — Guidelines*

ISO 20607, *Safety of machinery — Instruction handbook — General drafting principles*

IEC 31010, *Risk management — Risk assessment techniques*

IEC 60079-0, *Explosive atmospheres — Part 0: Equipment - General requirements*

IEC 60079-10-1, *Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres*

IEC 60079-14, *Explosive atmospheres — Part 14: Electrical installations design, selection and erection*

IEC 60079-17, *Explosive atmospheres — Part 17: Electrical installations inspection and maintenance*

IEC 60079-29-1, *Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases*

IEC 60079-29-4, *Explosive atmospheres - Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases*

IEC 60204-1:2005, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*

IEC 61511 (all parts), *Functional safety — Safety instrumented systems for the process industry sector*

IEC 62305, *Protection against lightning*

IEC 62443-3-3, *Industrial communication networks - Network and system security - Part 3-3: System security requirements and security levels*

UN ECE R110, *Uniform provisions concerning the approval of specific components of motor vehicles using CNG in their propulsion system*