ICS 75.200 SLOVENSKÁ TECHNICKÁ NORMA Október 2021

STN	**Vozidlá na zemný plyn** **Zariadenia na plnenie vozidiel**	**STN** **EN 17278** 30 7912

Natural gas vehicles - Vehicle fuelling appliances

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. 09/21

Obsahuje: EN 17278:2021

133606

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 17278

June 2021

ICS 75.200

English Version

Natural gas vehicles - Vehicle fuelling appliances

Véhicules fonctionnant au gaz naturel - Bornes de distribution de carburant véhicules

Erdgasfahrzeuge - Fahrzeugbetankungsgeräte

This European Standard was approved by CEN on 2 May 2021.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (EN 17278:2021) has been prepared by 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of an identical text or by endorsement, at the latest by December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

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 mandate M/071 given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the European Directive 2014/68/EU.

For relationship with European Directive 2014/68/EU, see informative Annex ZA, which is an integral part of this document.

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1 Scope

This document covers the design and manufacturing, installation and testing, operation and maintenance for vehicle fuelling appliances (VFAs) – the assemblies of the pressure equipment with

— maximum compressor flow rate 20 scm/h,

— maximum fuelling pressure 200 bar at 15°C,

intended for the non-commercial fuelling of natural gas vehicles (NGVs) with compressed natural gas (CNG).

This document is applicable to VFAs supplied with natural gas as defined in local applicable gas composition regulations or EN 16723-2, or with other gases meeting these requirements including biomethane, upgraded coal-bed methane (CBM) and gas from liquefied natural gas (LNG) vaporizer (on-site or off-site).

In case of combination of the certified VFA assembly with additional equipment, such as external storage and/or dispenser, EN ISO 16923 applies to the new assembly - the certified VFA assembly with added external equipment.

In case of combinations of interconnected VFA assemblies, EN ISO 16923 applies to the whole new assembly of the certified VFA assemblies.

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.

EN 60204-1:2018, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements*

EN 60079-10-1:2015, *Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmospheres*

EN 60079-29-2:2015, *Explosive atmospheres - Part 29-2: Gas detectors - Selection, installation, use and maintenance of detectors for flammable gases and oxygen*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code)*

EN 13445-3:2014, *Unfired pressure vessels - Part 3: Design*

EN 13480-3:2017, *Metallic industrial piping - Part 3: Design and calculation*

EN 16723-2:2017, *Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network - Part 2: Automotive fuels specification*

EN ISO 4126-1:2013,[1] *Safety devices for protection against excessive pressure - Part 1: Safety valves (ISO 4126-1:2013)*

EN ISO 4126-3:2006, *Safety devices for protection against excessive pressure — Part 3: Safety valves and bursting disc safety devices in combination*

[1] As impacted by amendments EN ISO 4126-1:2013/A1:2016 and EN ISO 4126-1:2013/A2:2019.

EN ISO 9809-1:2019, *Gas cylinders - Design, construction and testing of refillable seamless steel gas cylinders and tubes - Part 1: Quenched and tempered steel cylinders and tubes with tensile strength less than 1 100 MPa (ISO 9809-1:2019)*

EN ISO 9809-2:2019, *Gas cylinders - Design, construction and testing of refillable seamless steel gas cylinders and tubes - Part 2: Quenched and tempered steel cylinders and tubes with tensile strength greater than or equal to 1 100 MPa (ISO 9809-2:2019)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13849-1:2015, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 14469:2017, *Road vehicles - Compressed natural gas (CNG) refuelling connector (ISO 14469:2017)*

EN ISO 15609-1:2019, *Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding (ISO 15609-1:2019)*

EN ISO 16923:2018, *Natural gas fuelling stations - CNG stations for fuelling vehicles (ISO 16923:2016)*

EN ISO 30013:2011, *Rubber and plastics hoses - Methods of exposure to laboratory light sources - Determination of changes in colour, appearance and other physical properties (ISO 30013:2011)*

EN IEC 31010:2019, *Risk management - Risk assessment techniques*

EN IEC 60079-0:2018, *Explosive atmospheres - Part 0: Equipment - General requirements*

ISO 18119:2018, *Gas cylinders — Seamless steel and seamless aluminium-alloy gas cylinders and tubes — Periodic inspection and testing*

ISO 11119-1:2012, *Gas cylinders — Refillable composite gas cylinders and tubes — Design, construction and testing — Part 1: Hoop wrapped fibre reinforced composite gas cylinders and tubes up to 450 l*

ISO 11119-2:2012, *Gas cylinders — Refillable composite gas cylinders and tubes — Design, construction and testing — Part 2: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450 l with load-sharing metal liners*

ISO 11119-3:2013, *Gas cylinders — Refillable composite gas cylinders and tubes — Design, construction and testing — Part 3: Fully wrapped fibre reinforced composite gas cylinders and tubes up to 450L with non-load-sharing metallic or non-metallic liners*

ISO 11119-4:2016, *Gas cylinders — Refillable composite gas cylinders — Design, construction and testing — Part 4: Fully wrapped fibre reinforced composite gas cylinders up to 150 l with load-sharing welded metallic liners*

ISO 31000:2018, *Risk management — Guidelines*

ISO 15501-2:2016, *Road vehicles — Compressed natural gas (CNG) fuel systems — Part 2: Test methods*