MOOTORIKÜTUSE TANKLAD. OSA 1: OHUTUSNÕUDED TANKURITE, ANNUSTITE JA KAUGJUHITAVATE PUMPADE KOOSTULE JA KÄITUSELE

Petrol filling stations - Part 1: Safety requirements for construction and performance of metering pumps, dispensers and remote pumping units

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13617-1:2021 sisaldab Euroopa standardi EN 13617-1:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 13617-1:2021 consists of the English text of the European standard EN 13617-1:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.09.2021.	Date of Availability of the European standard is 15.09.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

Petrol filling stations - Part 1: Safety requirements for construction and performance of metering pumps, dispensers and remote pumping units

Stations-service - Partie 1 : Exigences relatives à la construction et aux performances de sécurité des distributeurs à pompe immergée, distributeurs de carburants et unités de pompage à distance

Tankstellen - Teil 1: Sicherheitstechnische Anforderungen an Bau- und Arbeitsweise von Zapfsäulen, druckversorgten Zapfsäulen und Fernpumpen

This European Standard was approved by CEN on 14 June 2021.

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

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

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European foreword

This document (EN 13617-1:2021) has been prepared by Technical Committee CEN/TC 393 “Equipment for storage tanks and for filling stations”, the secretariat of which is held by DIN.

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 March 2022, and conflicting national standards shall be withdrawn at the latest by March 2024.

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 13617-1:2012.

In comparison with EN 13617-1:2012, the following significant changes were made:

— Scope modified to reference that this document applies to dispensing of flammable liquids;

— Introduction and 7.3 modified to reference extended temperature ranges for storage and use;

— float testing clarified in 5.3.4.1;

— vent pipes to terminate outside of the dispenser housing in 5.3.4.4;

— shear valves to comply with EN 13617-3 in 5.3.4.7;

— alternative stability test has been added to 6.1.5.2;

— test liquid for material assessment defined in 6.1.7.2;

— revision of 7.4 Marking;

— introduction of Annex D;

— introduction of Annex E;

— update of normative references.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directives 2014/34/EU and 2006/42/EC.

For relationship with EU Directives, see informative Annexes ZA and ZB, which are an integral part of this document.

EN 13617 consists of four parts:

— *Part 1: Safety requirements for construction and performance of metering pumps, dispensers and remote pumping units;*

— *Part 2: Safety requirements for construction and performance of safe breaks for use on metering pumps and dispensers;*

— *Part 3: Safety requirements for construction and performance of shear valves;*

— *Part 4: Safety requirements for construction and performance of swivels for use on metering pumps and dispensers.*

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

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Turkey and the United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

— machine manufacturers (small, medium and large enterprises);

— health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

— machine users/employers (small, medium and large enterprises);

— machine users/employees (e.g. trade unions, organizations for people with special needs);

— service providers, e.g. for maintenance (small, medium and large enterprises);

— consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document. The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of the type C standard.

It has been assumed that the use of the equipment for dispensing of fuels will be by untrained persons (user/dispenser), while other aspects of the operation, maintenance, etc., will be by designated and trained personnel (station personnel or operator).

Measures in addition to those required by this document are expected to be assessed if the metering pump or dispenser is intended for use and storage at temperature outside of the range stated in the Scope. The manufacturer should demonstrate the suitability of the metering pump or dispenser design over the full temperature range, and the temperature range should be marked in accordance with 7.4.1. The need for and nature of additional requirements should be determined by the manufacturer, if necessary, after consulting the installer and user.

1 Scope

This document applies to metering pumps, dispensers and remote pumping units to be installed at liquid fuel filling stations, designed to dispense flammable liquid fuels into the tanks of motor vehicles, boats and light aircraft and into portable containers at flow rates up to 200 $l \cdot min^{-1}$, and intended for use and storage at ambient temperatures between −20 °C and +40 °C.

This document deals with all significant hazards, hazardous situations and events relevant to metering pumps, dispensers and remote pumping units, when they are used as intended and under the conditions foreseeable by the manufacturer (see Clause 4).

This document gives health and safety related requirements for the selection, construction and performance of the equipment.

This document does not specify a required performance level, PL_r, according to EN ISO 13849-1.

This document does not deal with noise and with hazards related to transportation and installation.

This document does not include any requirements for metering performance.

Vapour recovery efficiency rates are not considered within this document.

Fuels other than the ones of subdivision Group IIA according to EN ISO/IEC 80079-20-1:2019 are excluded from this document.

This document does not apply to equipment for use with liquefied or compressed gases.

This document does not cover the installation of the emergency stop provisions for the liquid fuel filling station.

This document is not applicable to metering pumps, dispensers and remote pumping units, which are manufactured before the date of publication of this document by CEN.

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 228:2012+A1:2017, *Automotive fuels - Unleaded petrol - Requirements and test methods*

EN 590:2013+A1:2017, *Automotive fuels - Diesel - Requirements and test methods*

EN 1360:2013, *Rubber and plastic hoses and hose assemblies for measured fuel dispensing systems - Specification*

EN 13012:2021, *Petrol filling stations - Construction and performance of automatic nozzles for use on fuel dispensers*

EN 13483:2013, *Rubber and plastic hoses and hose assemblies with internal vapour recovery for measured fuel dispensing systems - Specification*

EN 13617-3:2021, *Petrol filling stations - Part 3: Safety requirements for construction and performance of shear valves*

EN 14125:2013, *Thermoplastic and flexible metal pipework for underground installation at petrol filling stations*

EN 14214:2012+A2:2019, *Liquid petroleum products - Fatty acid methyl esters (FAME) for use in diesel engines and heating applications - Requirements and test methods*

EN 15293:2018, *Automotive fuels - Automotive ethanol (E85) fuel - Requirements and test methods*

EN 50525-2-21:2011,[1] *Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (Uo/U) - Part 2-21: Cables for general applications - Flexible cables with crosslinked elastomeric insulation*

EN 50525-2-51:2011, *Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U) - Part 2-51: Cables for general applications - Oil resistant control cables with thermoplastic PVC insulation*

EN 60079-1:2014, *Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d" (IEC 60079-1:2014)*

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

EN 60079-14:2014, *Explosive atmospheres - Part 14: Electrical installations design, selection and erection (IEC 60079-14:2013)*

EN 60204-1:2018, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016, modified)*

EN 60529:1991,[2] *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 60730-2-10:2007, *Automatic electrical controls for household and similar use - Part 2-10: Particular requirements for motor-starting relays (IEC 60730-2-10:2006)*

EN 60947-3:2009,[3] *Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units (IEC 60947-3:2008)*

EN IEC 62368-1:2020,[4] *Audio/video, information and communication technology equipment - Part 1: Safety requirements (IEC 62368-1:2018)*

EN IEC 60079-0:2018, *Explosive atmospheres - Part 0: Equipment - General requirements (IEC 60079-0:2017)*

EN 60079-7:2015,[5] *Explosive atmospheres - Part 7: Equipment protection by increased safety "e" (IEC 60079-7:2015)*

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[1] As impacted by EN 50525-2-21:2011/AC:2013.

[2] As impacted by EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.

[3] As impacted by EN 60947-3:2009/A1:2012 and EN 60947-3:2009/A2:2015.

[4] As impacted by EN IEC 62368-1:2020/A11:2020.

[5] As impacted by EN IEC 60079-7:2015/A1:2018.

EN IEC 61000-6-1:2019, *Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments (IEC 61000-6-1:2016)*

EN ISO 1182:2020, *Reaction to fire tests for products - Non-combustibility test (ISO 1182:2020)*

EN ISO 1825:2017, *Rubber hoses and hose assemblies for aircraft ground fuelling and defuelling - Specification (ISO 1825:2017)*

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

EN ISO 16852:2016, *Flame arresters - Performance requirements, test methods and limits for use (ISO 16852:2016)*

EN ISO 80079-36:2016, *Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic method and requirements (ISO 80079-36:2016)*

ISO 11925-3:1997, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 3: Multi-source test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
air and/or vapour separator
device used for continuously separating and removing air or gases contained in the liquid

3.2
delivery hose assembly
flexible delivery system to which the nozzle is connected

3.3
column extension
fabrication extending upwards from or to the side of a metering pump/dispenser hydraulic housing

3.4
metering pump
measuring system containing its own pumping system to draw and deliver liquid fuel from a supply tank or tanks into the tanks of motor vehicles, boats and light aircraft and into portable containers

3.5
dispenser
measuring and delivery system similar to that of a metering pump but without an integral pumping system