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Petrol filling stations - Part 4: Safety requirements for
construction and performance of swivels for use on
metering pumps and dispensers

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13617-4:2021 sisaldab Euroopa standardi EN 13617-4:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 13617-4:2021 consists of the English text of the European standard EN 13617-4:2021.
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English Version

Petrol filling stations - Part 4: Safety requirements for construction and performance of swivels for use on metering pumps and dispensers

Stations-service - Partie 4 : Exigences de sécurité relatives à la construction et aux performances des raccords tournants utilisés sur les distributeurs de carburants

Tankstellen - Teil 4: Sicherheitstechnische Anforderungen an Bau- und Arbeitsweise von Drehgelenken für Zapfsäulen und druckversorgte Zapfsäulen

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

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European foreword

This document (EN 13617-4:2021) 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of an identical text or by endorsement, at the latest by March 2022, and conflicting national standards shall be withdrawn at the latest by March 2024.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 13617-4:2012.

In comparison with the 2012 edition, the following significant changes were made:

- swivels for aqueous urea solution added;
- Table 1 corrected to ensure compatibility between components according to EN 13012:2021, EN 13617-2:2021, EN 13617-4:2021 and EN 1360:2013;
- the liquid compatibility preconditioning fluid for fuel swivels is defined in EN 13617-1.

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 Directive 2014/34/EU.

For relationship with EU Directive, see informative Annex ZA, which is 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.

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1 Scope

This document specifies safety requirements for the construction and performance of swivels to be fitted to delivery hose assemblies on metering pumps and dispensers installed at filling stations and used to dispense liquid fuels and aqueous urea solution into the tanks of motor vehicles, boats and light aircraft and into portable containers at flow rates up to $200 \text{ l} \cdot \text{min}^{-1}$. It pays particular attention to electrical, mechanical and hydraulic characteristics of swivels.

This document applies to fuels of subdivision Group IIA according to EN ISO/IEC 80079-20-1 and also aqueous urea solution in accordance with ISO 22241-1.

The requirements apply to swivels at ambient temperatures from $-20 \text{ }^{\circ}\text{C}$ to $+40 \text{ }^{\circ}\text{C}$ with the possibility for an extended temperature range.

This document applies mainly to hazards related to the ignition of liquid fuels being dispensed or their vapour. This document also addresses electrical and mechanical hazards of swivels.

This document does not apply to equipment dispensing compressed or liquefied gases.

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 1127-1:2019, *Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology*

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 13617-1:2021, *Petrol filling stations - Part 1: Safety requirements for construction and performance of metering pumps, dispensers and remote pumping units*

EN 13617-2:2021, *Petrol filling stations - Part 2: Safety requirements for construction and performance of safe breaks for use on metering pumps and dispensers*

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

EN ISO 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

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

EN ISO 8031:2020, *Rubber and plastics hoses and hose assemblies - Determination of electrical resistance and conductivity (ISO 8031:2020)*

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

ISO 261:1998, *ISO general purpose metric screw threads — General plan*

ISO 965-2:1998, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

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

ISO 22241-1:2019, *Diesel engines — NO_x reduction agent AUS 32 — Part 1: Quality requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13012:2021, EN 13617-1:2021 and EN 13617-2:2021 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

swivel

device fitted between nozzle and metering pump or dispenser to allow rotational movement

3.2

single plane swivel

swivel with one plane of rotation

3.3

dual plane swivel

swivel with two planes of rotation

4 Explosion protection measures

4.1 Explosion protection measures shall be taken in accordance with EN 1127-1:2019 and EN 13617-1:2021, Annex B.

4.2 The swivel shall be explosion protected and shall be Category 2G, Group II, EPL Gb in accordance with EN ISO 80079-36:2016. The vapour path of a vapour recovery swivel shall be Category 1G, Group II, EPL Ga in accordance with EN ISO 80079-36:2016. The swivel shall fulfil the requirements for temperature Class T3 and Group IIA to EN IEC 60079-0:2018 or EN ISO 80079-36:2016.