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VEDELGAASIANUMATE SISUMÕÕDIKUD

LPG equipment and accessories - Contents gauges for
Liquefied Petroleum Gas (LPG) pressure vessels

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13799:2022 sisaldab Euroopa standardi EN 13799:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 13799:2022 consists of the English text of the European standard EN 13799:2022.
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.
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English Version

LPG equipment and accessories - Contents gauges for Liquefied Petroleum Gas (LPG) pressure vessels

Equipements pour GPL et leurs accessoires - Jauges de
niveau pour les réservoirs de gaz de pétrole liquéfié
(GPL)

Flüssiggas-Geräte und Ausrüstungsteile -
Füllstandsanzeiger für Druckbehälter für Flüssiggas
(LPG)

This European Standard was approved by CEN on 8 August 2022.

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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
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 13799:2022) has been prepared by Technical Committee CEN/TC 286 “Liquefied petroleum gas equipment and accessories”, the secretariat of which is held by NSAI.

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of an identical text or by endorsement, at the latest by April 2023, and conflicting national standards shall be withdrawn at the latest by April 2023.

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 13799:2012.

The main changes compared to the previous edition include:

- revision to operational conditions;
- introduction of requirements for rubber material;
- introduction of telemetry requirements;
- introduction of an accuracy test;
- introduction of gauge repeatability requirements.

This document has been submitted for reference in:

- the RID [2]; and
- the technical annexes of the ADR [3].

NOTE These regulations take precedence over any clause of this document. It is emphasized that RID/ADR are being revised regularly at intervals of two years which might lead to temporary non-compliances with the clauses of this document.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

For the purposes of this document, contents gauges are considered a pressure accessory in accordance with the Pressure Equipment Directive 2014/68/EU [1] in that they have a function additional to that of containing pressure.

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, Türkiye and the United Kingdom.

Introduction

Provisions are restricted to a general guidance. Limit values are specified in national laws. It is recommended that companies using this document develop an environmental management policy. For guidance see the ISO 14000 series.

Protection of the environment is a key political issue in Europe and elsewhere. For TC 286 this is covered in CEN/TS 16765 [4] *LPG equipment and accessories - Environmental considerations for CEN/TC 286 standards*, and this Technical Specification should be read in conjunction with this document. This Technical Specification provides guidance on the environmental aspects to be considered regarding equipment and accessories produced for the LPG industry and the following is addressed:

- a) design;
- b) manufacture;
- c) packaging;
- d) use and operation; and
- e) disposal.

In this document the unit bar is used, due to its universal use in the field of technical gases. It should, however, be noted that bar is not an SI unit, and that the corresponding SI unit for pressure is Pa ($1 \text{ bar} = 10^5 \text{ Pa} = 10^5 \text{ N/m}^2$).

NOTE Pressure values given in this document are given as gauge pressure (pressure exceeding atmospheric pressure) unless otherwise stated.

1 Scope

This document specifies minimum requirements for design and testing of contents gauges, which are directly connected to LPG transportable pressure vessels, LPG drums, LPG cylinders and static LPG pressure vessels above 0,5 l water capacity excluding those used for automotive containers.

This document includes minimum requirements for the safe interchangeability of telemetry equipment, which is either integral in or additional to the contents gauge.

This document does not apply to refineries or other process plants.

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 549:2019, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 751-1:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 1: Anaerobic jointing compounds*

EN 751-2:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 2: Non-hardening jointing compounds*

EN 751-3:1996, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 3: Unsintered PTFE tapes*

EN 1092-1:2018, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1563:2018, *Founding — Spheroidal graphite cast irons*

EN 1774:1997, *Zinc and zinc alloys — Alloys for foundry purposes — Ingot and liquid*

EN 12164:2016, *Copper and copper alloys — Rod for free machining purposes*

EN 12165:2016, *Copper and copper alloys — Wrought and unwrought forging stock*

EN 12420:2014, *Copper and copper alloys — Forgings*

EN 12516-1:2014+A1:2018, *Industrial valves — Shell design strength — Part 1: Tabulation method for steel valve shells*

EN 12516-4:2014+A1:2018, *Industrial valves — Shell design strength — Part 4: Calculation method for valve shells manufactured in metallic materials other than steel*

EN 13445-2:2021, *Unfired pressure vessels — Part 2: Materials*

EN 13906-1:2013, *Cylindrical helical springs made from round wire and bar — Calculation and design — Part 1: Compression springs*

EN IEC 60079-0:2018,¹ *Explosive atmospheres — Part 0: Equipment — General requirements (IEC 60079-0:2017/COR1:2020)*

EN ISO 7049:2011, *Cross-recessed pan head tapping screws (ISO/FDIS 7049:2011)*

EN ISO 11114-1:2020, *Gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 1: Metallic materials (ISO 11114-1:2020)*

EN ISO 11114-2:2021, *Gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 2: Non-metallic materials (ISO 11114-2:2021)*

ISO 301:2006, *Zinc alloy ingots intended for castings*

ISO 1817:2015, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

ISO 2859-1:1999, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 6957:1988, *Copper alloys — Ammonia test for stress corrosion resistance*

ANSI/ASME B1.20.1 - 2013, *Pipe threads, general purpose (inch); issued by American National Standards Institute in 2013*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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

liquefied petroleum gas

LPG

low pressure gas composed of one or more light hydrocarbons which are assigned to UN 1011, UN 1075, UN 1965, UN 1969 or UN 1978 only and which consists mainly of propane, propene, butane, butane isomers, butene with traces of other hydrocarbon gases

3.2

contents gauge

device to indicate the liquid level or contents in a pressure vessel

3.2.1

float gauge

device to indicate the content of a vessel by means of a float on the liquid surface within the vessel

¹ This document is impacted by EN IEC 60079-0:2018/AC:2020-02.