

**Vedelgaasi seadmed ja lisavarustus. Ülerõhu
kaitseklapid vedelgaasi (LPG) mahutitele**

**LPG Equipment and accessories - Pressure relief valves
for LPG pressure vessels**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14129:2014 sisaldab Euroopa standardi EN 14129:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 14129:2014 consists of the English text of the European standard EN 14129:2014.
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English Version

LPG Equipment and accessories - Pressure relief valves for LPG pressure vessels

Équipements pour GPL et leurs accessoires - Soupapes de sécurité pour réservoirs de GPL sous pression

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

This European Standard was approved by CEN on 30 November 2013.

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Foreword

This document (EN 14129:2014) 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of an identical text or by endorsement, at the latest by August 2014, and conflicting national standards shall be withdrawn at the latest by August 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14129:2004.

This European Standard has been submitted for reference into:

- the RID [9]; and
- the technical annexes of the ADR [10].

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

The major changes to this revision include the addition of:

- pilot operated pressure relief valve;
- an ageing test, see 7.9 and Annex C;
- an endurance test, see 7.10; and
- a stress cracking test, see 7.11.

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(s).

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

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

Introduction

This European Standard calls for the use of substances and procedures that may be injurious to health and/or the environment if adequate precautions are not taken. It refers only to technical suitability: it does not absolve the user from their legal obligations at any stage.

Protection of the environment is a key political issue in Europe and elsewhere around the world. Protection of the environment in this document is understood in a very broad sense. The phrase is used, for example, in relation to the total life-cycle aspects of a product on the environment, including expenditure of energy, and during all phases of its existence, from mining of raw materials, to fabrication, packaging, distribution, use, scrapping, recycling of materials, etc.

NOTE 1 Annex D comprises an environmental checklist which highlights the clauses of this European Standard that address environmental aspects.

Provisions have to be restricted to a general guidance. Limit values are specified in national laws.

It is recommended that manufacturers develop an environmental management policy. For guidance see the EN ISO 14000 series [6], [7] and [8].

It has been assumed in the drafting of this European Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

All pressures are gauge pressures unless otherwise stated.

Valves designed in accordance with this standard are specifically for use in LPG applications. Valves manufactured in accordance EN ISO 4126-1 may also be used in certain LPG applications.

NOTE 2 This European Standard requires measurement of material properties, dimensions and pressures. All such measurements are subject to a degree of uncertainty due to tolerances in measuring equipment, etc. It may be beneficial to refer to the leaflet "measurement uncertainty leaflet" SP INFO 2000 27 [13].

1 Scope

This European Standard specifies the requirements for the design and testing of spring loaded pressure relief valves and thermal expansion valves for use in:

- static LPG pressure vessels,

NOTE The pressure vessels can be situated above ground, underground or mounded.

- LPG pressure vessels on road tankers, rail tankers, tank-containers or demountable tanks.

This document does not address production testing.

Normative Annex B prescribes testing with conditioning at - 40 °C for valves for use under extreme low temperature conditions.

The requirements for pressure relief valve accessories such as isolating devices, changeover manifolds and vent pipes are specified in EN 14071.

EN 14570 identifies the requirements for the pressure relief valve capacities for static pressure vessels.

EN 12252 identifies the requirements for the pressure relief valve capacities for road tankers.

Valves designed in accordance with this standard are specifically for use in LPG applications. Valves manufactured in accordance with EN ISO 4126-1 may also be used in certain LPG applications.

Terms used with LPG pressure relief valves are described graphically in Annex A.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 549:1994, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

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

EN 837-1, *Pressure gauges - Part 1: Bourdon tube pressure gauges - Dimensions, metrology, requirements and testing*

EN 1092-1:2007+A1:2013, *Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges*

EN 1503-1:2000, *Valves - Materials for bodies, bonnets and covers - Part 1: Steels specified in European Standards*

EN 1503-2:2000, *Valves - Materials for bodies, bonnets and covers - Part 2: Steels other than those specified in European Standards*

EN 1503-3:2000, *Valves - Materials for bodies, bonnets and covers - Part 3: Cast irons specified in European Standards*

EN 1503-4:2002, *Valves - Materials for bodies, bonnets and covers - Part 4: Copper alloys specified in European Standards*

EN 1563:2011, *Founding - Spheroidal graphite cast irons*

EN 10204, *Metallic products - Types of inspection documents*

EN 10270-3:2011, *Steel wire for mechanical springs - Part 3: Stainless spring steel wire*

EN 12165:2011, *Copper and copper alloys - Wrought and unwrought forging stock*

EN 12420:1999, *Copper and copper alloys - Forgings*

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

EN 14071:2004, *Pressure relief valves for LPG tanks - Ancillary equipment*

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

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

ANSI/ASME B1.20.1–1983, *Pipe Threads, General Purpose (Inch)*

3 Terms and definitions

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

3.1

liquefied petroleum gas LPG

low pressure liquefied 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

pressure vessel

assembly of the pressure-retaining envelope (including the openings and their closures) and non-pressure-retaining parts attached directly to it

3.3

pressure relief valve

self-closing valve which automatically, without the assistance of any energy other than that of the vapour concerned, discharges vapour at a predetermined pressure, and operates with a pop action

3.4

thermal expansion valve

self-closing valve which automatically, without the assistance of any energy other than that of the fluid concerned, discharges fluid at a predetermined pressure