

LPG equipment and accessories - Pressure relief valves  
for transportable refillable cylinders for Liquefied  
Petroleum Gas (LPG)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 13953:2020 sisaldab Euroopa standardi EN 13953:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 13953:2020 consists of the English text of the European standard EN 13953:2020.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.12.2020.	Date of Availability of the European standard is 09.12.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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EUROPEAN STANDARD

EN 13953

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

## LPG equipment and accessories - Pressure relief valves for transportable refillable cylinders for Liquefied Petroleum Gas (LPG)

Équipements et accessoires GPL - Soupapes de sécurité des bouteilles transportables et rechargeables pour gaz de pétrole liquéfiés (GPL)

Flüssiggas-Geräte und Ausrüstungsteile - Sicherheitsventile für ortsbewegliche, wiederbefüllbare Flaschen für Flüssiggas (LPG)

This European Standard was approved by CEN on 1 June 2020.

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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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COMITÉ EUROPÉEN DE NORMALISATION  
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## European foreword

This document (EN 13953:2020) has been prepared by Technical Committee CEN/TC 286 “LPG 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of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.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 supersedes EN 13953:2015.

The major changes to this revision include:

- addition of water capacity range in the scope;
- addition of requirements for rubber material;
- change to the nominal set pressure;
- clarification to discharge capacity test;
- clarification to endurance test

This document has been submitted for reference in

- the RID and/or
- the technical annexes of the ADR

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

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 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.

It is essential that provisions be restricted to a general guidance. Limit values are specified in national laws.

Protection of the environment is a key political issue in Europe and elsewhere, for CEN/TC 286 this is covered in CEN/TS 16765 [2], LPG equipment and accessories – Environmental considerations for CEN/TC 286 standards, and this Technical Specification should be read in conjunction with this standard.

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

All pressures are gauge pressures unless otherwise stated.

In this European Standard 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** This document 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 [3].

## 1 Scope

This document specifies the design, testing and marking requirements for spring loaded pressure relief valves (PRV), for use in liquefied petroleum gas (LPG) cylinders of water capacity of 0,5 l up to and including 150 l.

These PRVs can be either an integral part of a cylinder valve (see EN ISO 14245 [4] and EN ISO 15995 [5]) or a separate device.

## 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, *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 12164, *Copper and copper alloys - Rod for free machining purposes*

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

EN 12420, *Copper and copper alloys - Forgings*

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

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

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

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*