

# SVENSK STANDARD

## SS-EN ISO 14245:2021

**Gasflaskor – Specifikationer och provning av gasflaskventiler för gasol (LPG) – Självstängande (ISO 14245:2021)**

**Gas cylinders – Specifications and testing of LPG cylinder valves – Self-closing (ISO 14245:2021)**



**sis** Svenska  
Institutet för  
Standarder

Language: engelska/English

Edition: 3

This preview is downloaded from [www.sis.se](http://www.sis.se). Buy the entire standard via <https://www.sis.se/std-80029896>

Den här standarden kan hjälpa dig att effektivisera och kvalitetssäkra ditt arbete. SIS har fler tjänster att erbjuda dig för att underlätta tillämpningen av standarder i din verksamhet.

#### **SIS Abonnemang**

Snabb och enkel åtkomst till gällande standard med SIS Abonnemang, en prenumerationstjänst genom vilken din organisation får tillgång till all världens standarder, senaste uppdateringarna och där hela din organisation kan ta del av innehållet i prenumerationen.

#### **Utbildning, event och publikationer**

Vi erbjuder även utbildningar, rådgivning och event kring våra mest sålda standarder och frågor kopplade till utveckling av standarder. Vi ger också ut handböcker som underlättar ditt arbete med att använda en specifik standard.

#### **Vill du delta i ett standardiseringsprojekt?**

Genom att delta som expert i någon av SIS 300 tekniska kommittéer inom CEN (europeisk standardisering) och/eller ISO (internationell standardisering) har du möjlighet att påverka standardiseringsarbetet i frågor som är viktiga för din organisation. Välkommen att kontakta SIS för att få veta mer!

#### **Kontakt**

Skriv till [kundservice@sis.se](mailto:kundservice@sis.se), besök [sis.se](https://www.sis.se) eller ring 08 - 555 523 10

---

© Copyright/Upphovsrätten till denna produkt tillhör Svenska institutet för standarder, Stockholm, Sverige. Upphovsrätten och användningen av denna produkt regleras i slutanvändarlicensen som återfinns på [sis.se/slutanvandarlicens](https://www.sis.se/slutanvandarlicens) och som du automatiskt blir bunden av när du använder produkten. För ordlista och förkortningar se [sis.se/ordlista](https://www.sis.se/ordlista).

© Copyright Svenska institutet för standarder, Stockholm, Sweden. All rights reserved. The copyright and use of this product is governed by the end-user licence agreement which you automatically will be bound to when using the product. You will find the licence at [sis.se/enduserlicenseagreement](https://www.sis.se/enduserlicenseagreement).

Upplysningar om sakinnehållet i standarden lämnas av Svenska institutet för standarder, telefon 08 - 555 520 00. Standarder kan beställas hos SIS som även lämnar allmänna upplysningar om svensk och utländsk standard.

Standarden är framtagen av kommittén för Gasflaskor, SIS/TK 296.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](https://www.sis.se) - där hittar du mer information.

Europastandarden EN ISO 14245:2021 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 14245:2021.

Denna standard ersätter SS-EN ISO 14245:2019, utgåva 2

The European Standard EN ISO 14245:2021 has the status of a Swedish Standard. This document contains the official version of EN ISO 14245:2021.

This standard supersedes the SS-EN ISO 14245:2019, edition 2

## LÄSANVISNINGAR FÖR STANDARDER

I dessa anvisningar behandlas huvudprinciperna för hur regler och yttre begränsningar anges i standardiseringsprodukter.

### Krav

Ett krav är ett uttryck i ett dokumentets innehåll som anger objektivet verifierbara kriterier som ska uppfyllas och från vilka ingen avvikelse tillåts om efterlevnad av dokumentet ska kunna åberopas. Krav uttrycks med hjälpverbet ska (eller ska inte för förbud).

### Rekommendation

En rekommendation är ett uttryck i ett dokumentets innehåll som anger en valmöjlighet eller ett tillvägagångssätt som bedöms vara särskilt lämpligt utan att nödvändigtvis nämna eller utesluta andra. Rekommendationer uttrycks med hjälpverbet bör (eller bör inte för avrådanden).

### Instruktion

Instruktioner anges i imperativ form och används för att ange hur något görs eller utförs. De kan underordnas en annan regel, såsom ett krav eller en rekommendation. De kan även användas självständigt, och är då att betrakta som krav.

### Förklaring

En förklaring är ett uttryck i ett dokumentets innehåll som förmedlar information. En förklaring kan uttrycka tillåtelse, möjlighet eller förmåga. Tillåtelse uttrycks med hjälpverbet får (eller motsatsen behöver inte). Möjlighet och förmåga uttrycks med hjälpverbet kan (eller motsatsen kan inte).

## READING INSTRUCTIONS FOR STANDARDS

These instructions cover the main principles for the use of provisions and external constraints in standardization deliverables.

### Requirement

A requirement is an expression, in the content of a document, that conveys objectively verifiable criteria to be fulfilled, and from which no deviation is permitted if conformance with the document is to be claimed. Requirements are expressed by the auxiliary shall (or shall not for prohibition).

### Recommendation

A recommendation is an expression, in the content of a document, that conveys a suggested possible choice or course of action deemed to be particularly suitable, without necessarily mentioning or excluding others. Recommendations are expressed by the auxiliary should (or should not for dissuasion).

### Instruction

An instruction is expressed in the imperative mood and is used in order to convey an action to be performed. It can be subordinated to another provision, such as a requirement or a recommendation. It can also be used independently and is then to be regarded as a requirement.

### Statement

A statement is an expression, in the content of a document, that conveys information. A statement can express permission, possibility or capability. Permission is expressed by the auxiliary may (its opposite being need not). Possibility and capability are expressed by the auxiliary can (its opposite being cannot).

EUROPEAN STANDARD

EN ISO 14245

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2021

ICS 23.020.35

Supersedes EN ISO 14245:2019

English Version

## Gas cylinders - Specifications and testing of LPG cylinder valves - Self-closing (ISO 14245:2021)

Bouteilles à gaz - Spécifications et essais  
pour valves de bouteilles de GPL - Fermeture  
automatique (ISO 14245:2021)

Gasflaschen - Spezifikation und Prüfung  
von Flaschenventilen für Flüssiggas (LPG)  
- Selbstschließend (ISO 14245:2021)

This European Standard was approved by CEN on 6 June 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

# Contents

Page

|   |             |
|---|-------------|
| <b>Foreword .....</b>                               | <b>viii</b> |
| <b>European foreword .....</b>                      | <b>ix</b>   |
| <b>Introduction .....</b>                           | <b>x</b>    |
| <b>1 Scope.....</b>                                 | <b>1</b>    |
| <b>2 Normative references .....</b>                 | <b>1</b>    |
| <b>3 Terms and definitions.....</b>                 | <b>1</b>    |
| <b>4 Design and specification.....</b>              | <b>4</b>    |
| 4.1 General .....                                   | 4           |
| 4.2 Materials.....                                  | 5           |
| 4.2.1 General.....                                  | 5           |
| 4.2.2 Operating temperatures.....                   | 5           |
| 4.2.3 Copper alloys.....                            | 5           |
| 4.2.4 Non-metallic materials .....                  | 5           |
| 4.3 Essential components.....                       | 5           |
| 4.3.1 Valve operating mechanism.....                | 5           |
| 4.3.2 Valve body .....                              | 6           |
| 4.3.3 Valve stem.....                               | 6           |
| 4.3.4 Valve outlet .....                            | 6           |
| 4.3.5 Excess flow valve .....                       | 6           |
| 4.4 Optional components.....                        | 6           |
| 4.4.1 General.....                                  | 6           |
| 4.4.2 Pressure relief valve.....                    | 7           |
| 4.4.3 Eduction tube.....                            | 7           |
| 4.4.4 Fixed liquid level gauge .....                | 7           |
| 4.4.5 Excess flow valve .....                       | 7           |
| 4.4.6 Non-return valve .....                        | 7           |
| 4.4.7 Liquid level indicator.....                   | 7           |
| 4.4.8 Sealing cap and sealing plug.....             | 7           |
| 4.4.9 Sediment tube.....                            | 8           |
| 4.5 Leak tightness .....                            | 8           |
| <b>5 Valve type test.....</b>                       | <b>8</b>    |
| 5.1 General .....                                   | 8           |
| 5.2 Test samples.....                               | 8           |
| 5.3 Test procedure and test requirements .....      | 9           |
| 5.4 Inspection .....                                | 10          |
| 5.5 Hydraulic pressure test.....                    | 10          |
| 5.5.1 Procedure .....                               | 10          |
| 5.5.2 Requirement.....                              | 10          |
| 5.6 External and internal leak tightness tests..... | 10          |
| 5.6.1 Procedure .....                               | 10          |
| 5.6.2 Requirement.....                              | 11          |
| 5.7 Operation test.....                             | 11          |
| 5.7.1 Procedure .....                               | 11          |
| 5.7.2 Requirement.....                              | 11          |
| 5.8 Valve stem test .....                           | 12          |
| 5.8.1 Procedure .....                               | 12          |
| 5.8.2 Requirement.....                              | 12          |
| 5.9 Impact test.....                                | 12          |
| 5.9.1 General.....                                  | 12          |
| 5.9.2 Procedure .....                               | 12          |
| 5.9.3 Requirement.....                              | 14          |
| 5.10 Endurance test — Part 1.....                   | 14          |

|                     |  |           |
|---------------------|--|-----------|
| 5.10.1              | Procedure .....  | 14        |
| 5.10.2              | Requirement.....   | 14        |
| 5.11                | Endurance test — Part 2.....                                 | 14        |
| 5.11.1              | Procedure .....  | 14        |
| 5.11.2              | Requirement.....   | 15        |
| 5.12                | Simulated vacuum test .....                                  | 15        |
| 5.13                | Examination of dismantled valves.....                        | 15        |
| 5.13.1              | Procedure .....  | 15        |
| 5.13.2              | Requirement.....   | 15        |
| 5.14                | Excess flow valve test.....                                  | 15        |
| 5.14.1              | General.....   | 15        |
| 5.14.2              | Excess flow valve test with air.....                         | 16        |
| 5.14.3              | Excess flow valve test with water.....                       | 16        |
| 5.14.4              | Excess flow strength test .....                              | 17        |
| 5.15                | Non-return valve test .....                                  | 17        |
| 5.15.1              | Procedure .....  | 17        |
| 5.15.2              | Requirement.....   | 17        |
| 5.16                | Vibration test.....  | 17        |
| 5.16.1              | Procedure .....  | 17        |
| 5.16.2              | Requirement.....   | 17        |
| <b>6</b>            | <b>Documentation and test report.....</b>                    | <b>18</b> |
| 6.1                 | Documentation .....  | 18        |
| 6.2                 | Test report .....  | 18        |
| <b>7</b>            | <b>Production testing.....</b>                               | <b>18</b> |
| <b>8</b>            | <b>Markings.....</b>   | <b>18</b> |
| <b>Annex A</b>      | <b>(normative) Production testing and inspection .....</b>   | <b>19</b> |
| <b>Annex B</b>      | <b>(normative) Special low temperature requirements.....</b> | <b>20</b> |
| <b>Annex C</b>      | <b>(normative) Vibration testing .....</b>                   | <b>21</b> |
| <b>Bibliography</b> | <b>.....</b>   | <b>22</b> |

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 286, *Liquefied petroleum gas equipment and accessories*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 14245:2019), of which it constitutes a minor revision. The changes compared with the previous edition are as follows:

- correction of [Clause 8](#), list item c).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



## European foreword

This document (EN ISO 14245:2021) has been prepared by Technical Committee ISO/TC 58 "Gas cylinders" in collaboration with 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 December 2021, and conflicting national standards shall be withdrawn at the latest by December 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 ISO 14245:2019.

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, 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.

### Endorsement notice

The text of ISO 14245:2021 has been approved by CEN as EN ISO 14245:2021 without any modification.

## Introduction

This document covers the function of a LPG cylinder valve as a closure (defined by the UN Model Regulations<sup>[15]</sup>).

This document has been written so that it is suitable to be referenced in the UN Model Regulations.

Cylinder valves complying with this document can be expected to perform satisfactorily under normal service conditions.

When an LPG cylinder valve has been approved according to a previous edition of this document, the body responsible for approving the same LPG cylinder valve to this new edition should consider which tests need to be performed.

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 bar = 10<sup>5</sup> Pa = 10<sup>5</sup> N/m<sup>2</sup>).

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

# Gas cylinders — Specifications and testing of LPG cylinder valves — Self-closing

## 1 Scope

This document specifies the requirements for design, specification, type testing and production testing and inspection for dedicated LPG self-closing cylinder valves for use with and directly connected to transportable refillable LPG cylinders.

It also includes requirements for associated equipment for vapour and liquid service. Bursting discs and/or fusible plugs are not covered in this document.

[Annex A](#) identifies requirements for production testing and inspection.

This document excludes other LPG cylinder devices which are not an integral part of the dedicated self-closing cylinder valve.

This document does not apply to cylinder valves for fixed automotive installations and ball valves.

NOTE For manually operated LPG cylinder valves see ISO 15995. For cylinder valves for compressed, dissolved and other liquefied gases see ISO 10297, ISO 17871 or ISO 17879.

## 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.

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

ISO 10286, *Gas cylinders — Terminology*

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

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

ISO 13341, *Gas cylinders — Fitting of valves to gas cylinders*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10286 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 <http://www.electropedia.org/>

### 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

[SOURCE: ISO 10286:2015, 723, modified]