

Gas cylinders - Cylinder valves - Manufacturing tests
and examinations (ISO 14246:2022)

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EUROPEAN STANDARD

EN ISO 14246

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Gas cylinders - Cylinder valves - Manufacturing tests and examinations (ISO 14246:2022)

Bouteilles à gaz - Robinets de bouteilles à gaz - Essais
de fabrication et contrôles (ISO 14246:2022)

Gasflaschen - Flaschenventile - Herstellungsprüfungen
und untersuchungen (ISO 14246:2022)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 14246:2022) has been prepared by Technical Committee ISO/TC 58 "Gas cylinders" in collaboration with Technical Committee CEN/TC 23 "Transportable gas cylinders" the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by August 2022, and conflicting national standards shall be withdrawn at the latest by August 2022.

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 14246:2014.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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 14246:2022 has been approved by CEN as EN ISO 14246:2022 without any modification.

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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).

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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.

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 23, *Transportable gas cylinders*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 14246:2014), which has been technically revised. It also incorporates Amendment ISO 14246:2014/Amd 1:2017. The main changes are as follows:

- in [Clause 4](#), a maximum level of hydrocarbon contamination of 220 mg/m² and a maximum particle size of 200 µm has been introduced for valves for oxygen and other oxidizing gases for general purpose applications, and the mandatory reference to ISO 15001 has been changed to an example for medical applications;
- in [5.2](#), indent c), the value of the test pressure for specific acetylene valves has been reduced from 37 bar to 35 bar;
- in [5.4](#), the requirements concerning the verification of the assembly with regard to the use of correct components and assembly torques have been clarified.

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.

Introduction

This document covers the function of a valve as a closure (defined by the UN Model Regulations). Additional features of valves (e.g. pressure regulators, residual pressure-retaining devices, non-return devices and pressure relief devices) might be covered by other standards and/or regulations.

Valves conforming to this document can be expected to perform satisfactorily under normal service conditions.

This document pays particular attention to manufacturing tests and examinations of valves designed and type tested in accordance with ISO 10297.

This document has been written so that it is suitable to be referenced in the UN Model Regulations^[1].

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 = 10^5 Pa = 10^5 N/m²).

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

Gas cylinders — Cylinder valves — Manufacturing tests and examinations

1 Scope

This document specifies the procedures and acceptance criteria for manufacturing tests and examinations (sometimes called "initial inspection and tests") of valves designed and type tested in accordance with ISO 10297.

This document is applicable to:

- a) cylinder valves intended to be fitted to refillable transportable gas cylinders;
- b) main valves (excluding ball valves) for cylinder bundles;
- c) cylinder valves or main valves with integrated pressure regulator (VIPR);
- d) valves for pressure drums and tubes.

NOTE Where there is no risk of ambiguity, cylinder valves, main valves, VIPR and valves for pressure drums and tubes are addressed with the collective term "valves" within this document.

The principles of these manufacturing tests and examinations can be beneficially applied to cylinder valves type tested to national or International Standards other than ISO 10297.

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 10286, *Gas cylinders — Vocabulary*

ISO 10297, *Gas cylinders — Cylinder valves — Specification and type testing*

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 <https://www.electropedia.org/>

3.1

valve working pressure

p_w

settled pressure of a compressed gas at a uniform reference temperature of 15 °C in a full gas cylinder for which the valve is intended

Note 1 to entry: This definition does not apply to liquefied gases (e.g. carbon dioxide) or dissolved gases (e.g. acetylene).

[SOURCE: ISO 10297:2014, 3.6, modified — "or cylinder bundle" has been deleted from the definition and Note 2 to entry has been deleted.]