
Small medical gas cylinders — Pin-index yoke-type valve connections

Petites bouteilles à gaz médicaux — Raccords de robinets du type étrier avec ergots de sécurité



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Published in Switzerland

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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).

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).

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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, *Cylinders 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 fourth edition cancels and replaces the third edition (ISO 407:2004), which has been technically revised.

The main changes compared to the previous edition are as follows:

- addition of a note in [Figure 1](#) on the introduction of a radius to avoid stress concentration;
- addition of dimension m in [Figure 1](#);
- revision of the basic dimensions for pin index yoke type valve connections (see [Table 2](#));
- addition of a requirement for the design of the connecting yoke.

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.

Small medical gas cylinders — Pin-index yoke-type valve connections

1 Scope

This document is applicable to pin-index yoke-type valve connections for medical gas cylinders, with a working pressure up to a maximum of 200 bar or test pressure up to a maximum of 300 bar, or both.

NOTE 1 This type of connection is primarily used for small cylinders (5 l or below).

NOTE 2 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).

This document specifies:

- basic dimensions;
- requirements for alternative designs of the yoke-type valve connections;
- dimensions and positions for the holes and pins for the outlet connections.

It also specifies the dimensions and positions for the holes and pins for the outlet connections for gases and gas mixtures.

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 32, *Gas cylinders for medical use — Marking for identification of content*

3 Terms and definitions

No terms and definitions are listed in this document.

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/>

4 Valve

Each small medical gas cylinder can be fitted with a yoke valve (see [Clause 6](#)). The yoke valve shall have location holes of the dimensions and in the positions indicated in [Clause 8](#) for the appropriate gas or gas mixture (see [Table 1](#)).

The name or chemical symbol of the gas or gas mixture shall be clearly and indelibly stamped on the valve.