SLOVENSKI STANDARD
SIST EN ISO 407:2005

01-januar-2005

Nadomešča:
SIST EN 850:1999
SIST EN 850:1999/A1:2002
SIST EN 850:1999/AC:1999

Male plinske jeklenke za uporabo v medicini - Ventilski priključni nastavki po sistemu pin-index (ISO 407:2004)

Small medical gas cylinders - Pin-index yoke-type valve connections (ISO 407:2004)

Kleine Gasflaschen für die medizinische Anwendung - Ventilseitenstutzen mit Anschlussbügel nach dem Pin-Index-System (ISO 407:2004)

Petites bouteilles a gaz médicaux - Raccords de robinets du type a étrier avec ergots de sécurité (ISO 407:2004)

Ta slovenski standard je istoveten z: **EN ISO 407:2004**

ICS:

11.040.10	Anestezijska, respiratorna in reanimacijska oprema	Anaesthetic, respiratory and reanimation equipment
23.020.30	Tlačne posode, plinske jeklenke	Pressure vessels, gas cylinders
23.060.40	Tlačni regulatorji	Pressure regulators

SIST EN ISO 407:2005 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 407

November 2004

ICS 11.040.10

Supersedes EN 850:1996

English version

Small medical gas cylinders - Pin-index yoke-type valve connections (ISO 407:2004)

Petites bouteilles à gaz médicaux - Raccords de robinets du type à étrier avec ergots de sécurité (ISO 407:2004)

Kleine Gasflaschen für die medizinische Anwendung - Ventilseitenstutzen mit Anschlussbügel nach dem Pin-Index-System (ISO 407:2004)

This European Standard was approved by CEN on 10 September 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 407:2004) 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 May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

This document supersedes EN 850:1996.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 407:2004 has been approved by CEN as EN ISO 407:2004 without any modifications.

INTERNATIONAL STANDARD

ISO 407

Third edition
2004-11-01

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

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

Reference number
ISO 407:2004(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 407 was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings*.

This third edition cancels and replaces the second edition (ISO 407:1991), which has been technically revised.

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

1 Scope

This International Standard concerns pin-index yoke-type valve connections for small medical gas cylinders, with a maximum working pressure (filling pressure at 15 °C) of 200 bar. This type of connection is typically used for small cylinders (5 l or below). In some cases, it may be used for larger cylinders. In this latter case, consideration shall be given to the need for valve protection.

It 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 the gases and gas mixtures given in Table 1.

This International Standard applies to small medical gas cylinders used for patient care, including therapeutic, diagnostic and prophylactic applications, in hospitals and for emergency treatment.

2 Normative references

The following referenced documents are indispensable for the application 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 32:1977, *Gas cylinders for medical use — Marking for identification of content*

3 Valve

Each small medical gas cylinder can be fitted with a yoke valve (see Clause 5). The yoke valve shall have location holes of the dimensions and in the positions indicated in Clause 7 for the appropriate gas or gas mixture.

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

Table 1 — Allocated gases and gas mixtures

Gas or gas mixture	Chemical symbol
Oxygen	O_2
Oxygen/carbon dioxide ($CO_2 \leqslant 7$ %)	$O_2 + CO_2$,
Oxygen/helium (He $\leqslant 80$ %)	O_2 + He
Ethylene	C_2H_4
Nitrous oxide (with and without draw-off)	N_2O
Cyclopropane	C_3H_6
Helium and helium/oxygen ($O_2 < 20$ %)	He
Carbon dioxide (with and without draw-off) and carbon dioxide/oxygen $CO_2 > 7$ %)	CO_2
Medical air	Air
Nominal mixture 50 % oxygen/50 % nitrous oxide (47,5 % $< N_2O <$ 52,5 %)	$O_2 + N_2O$
Nitrogen	N_2
Mixture of air, helium and carbon monoxide (CO < 1 %)	Air + He + CO

4 Yoke

The connecting yoke shall conform to the requirements and dimensions given in Clauses 5 and 6. The yoke shall be fitted with pins, the dimensions and the positions of which correspond to the holes in the valve as indicated in Clause 7 for the appropriate gas or gas mixture.

The name or chemical symbol of the gas or gas mixture shall be clearly and indelibly stamped on the yoke. If an identification colour is used, it shall be in conformity with ISO 32.

Examples of the alternative designs for the connecting yoke are given in 6.2.

In Figures 3 and 4, the circled numbers and letters are the pin-hole positions.

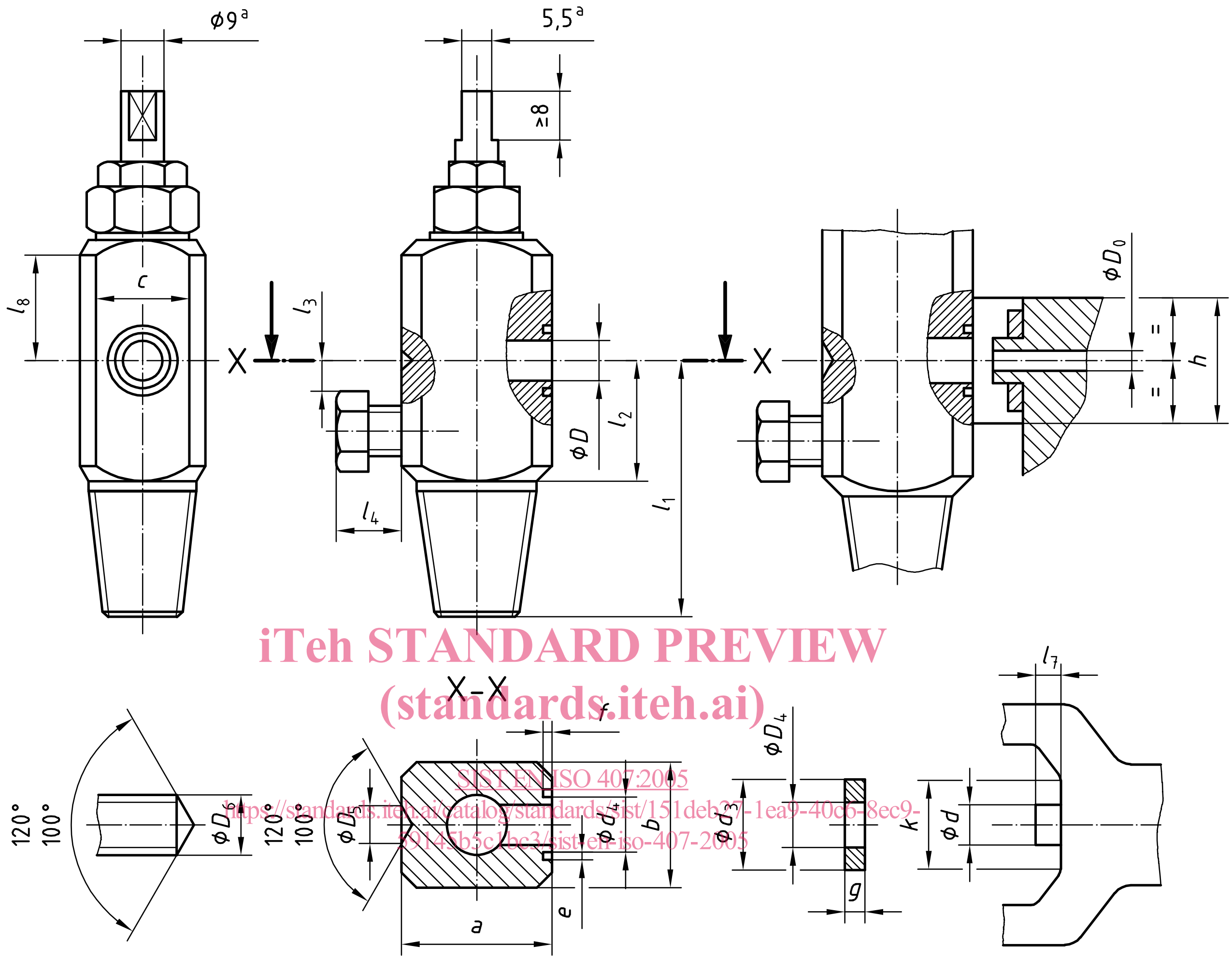
5 Basic dimensions

5.1 General

The basic dimensions for pin-index yoke-type valve connections are shown in Figures 1 to 4, and are listed in Table 2.

5.2 Pin-index yoke-type valve body

Dimensions in millimetres



a Applicable only to single-key valves.

Figure 1 — Pin-index yoke-type valve body

5.3 Single-pin yoke-type valve connection system

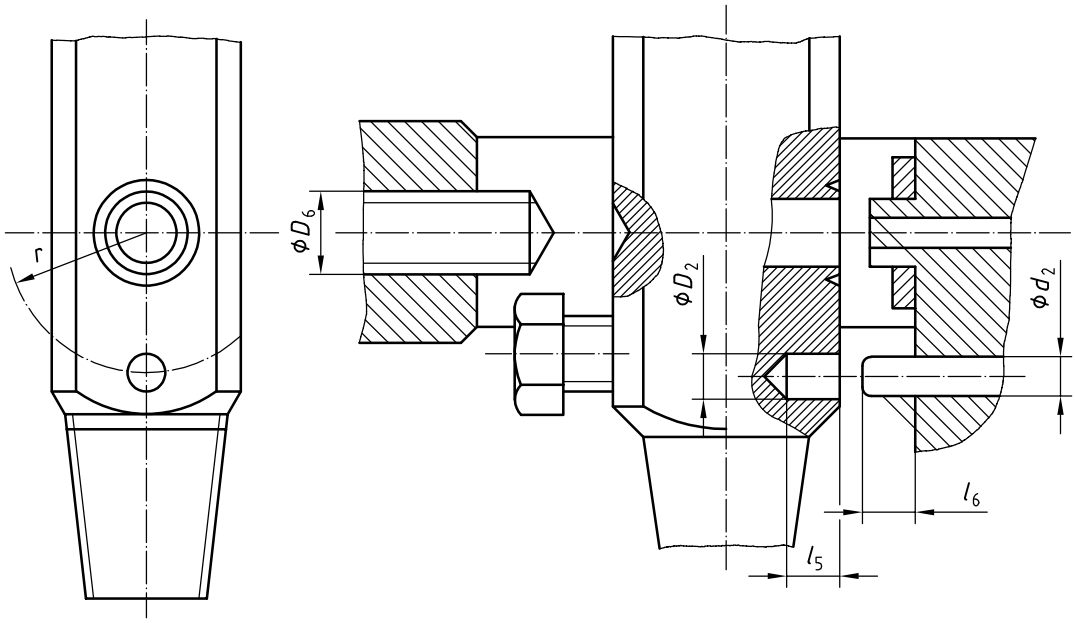


Figure 2 — Single-pin yoke-type valve connection system

5.4 Two-pin yoke-type valve connection system with the pins in a single row

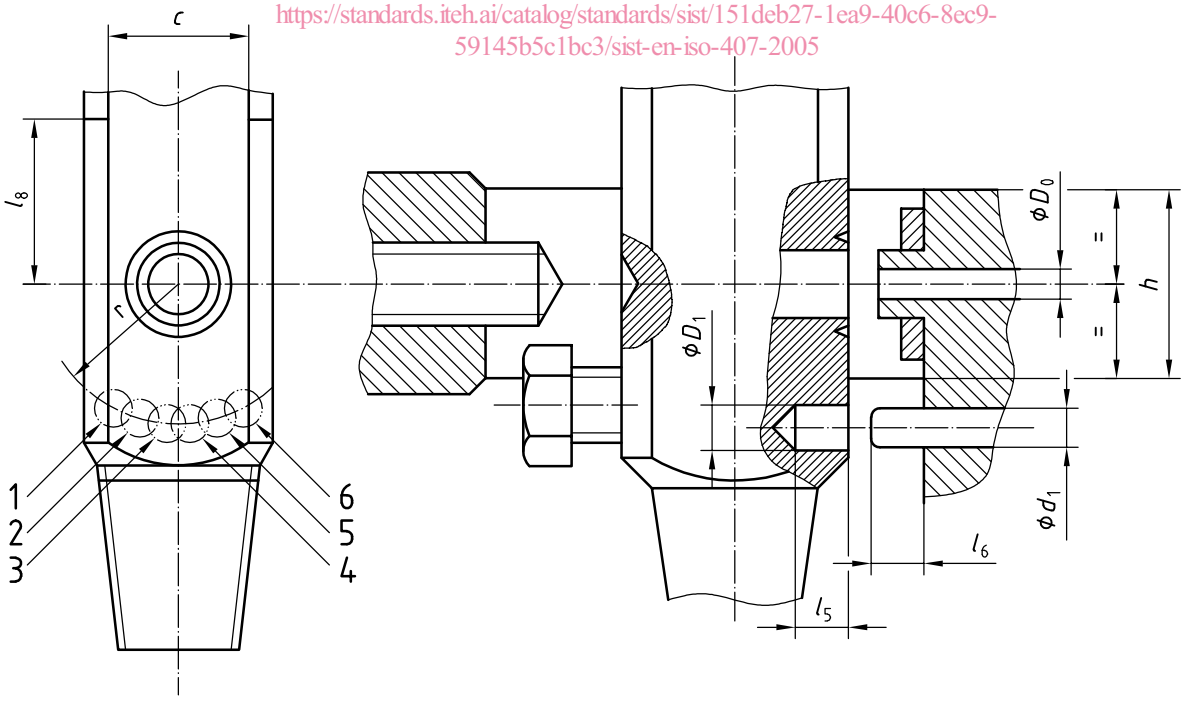


Figure 3 — Two-pin yoke-type valve connection system with the pins in a single row