



**International
Standard**

ISO 17510

**Medical devices — Sleep apnoea
breathing therapy — Masks and
application accessories**

*Dispositifs médicaux — Thérapie respiratoire de l'apnée du
sommeil — Masques et accessoires d'application*

**Second edition
2025-11**



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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 document 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 jointly by Technical Committee ISO/TC 121, *Anaesthetic and respiratory equipment*, Subcommittee SC 3, *Respiratory devices and related equipment used for patient care*, and Technical Committee IEC/TC 62, *Medical equipment, software, and systems*, Subcommittee SC D, *Particular medical equipment, software, and systems*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 215, *Respiratory and anaesthetic equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 17510:2015), which has been technically revised.

The main changes are as follows:

- harmonization with IEC 60050-880 sources, where appropriate;
- adding disclosure requirements for magnets in *headgear*;
- updated *processing* requirements;
- updated noise requirements;
- referencing ISO 18562-1, for *biocompatibility* of *gas pathways*;
- harmonization with ISO 20417, where appropriate.

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

Sleep apnoea is the clinically significant intermittent absences of normal respiration occurring during sleep. The awareness of the *risks* associated with sleep apnoea has grown significantly in recent years. As a result, the use of *sleep apnoea breathing therapy equipment* has become common. This document covers basic safety and essential performance requirements for *masks* and other application *accessories* needed to protect *patients* during use of this equipment.

Sleep apnoea breathing therapy equipment is covered by ISO 80601-2-70. [Figure A.1](#) shows the typical elements of this document together with the *sleep apnoea breathing therapy equipment* of ISO 80601-2-70 that form a sleep apnoea breathing system.

In this document, the following print types are used:

- Requirements and definitions: roman type.
- Informative material appearing outside of tables, such as notes, examples, and references: in smaller type. Normative text of tables is also in a smaller type.
- *Terms defined in [Clause 3](#) in this document or as noted: italics.*

In referring to the structure of this document, the term:

- “clause” means one of the numbered divisions within the table of contents, inclusive of all subdivisions (e.g. [Clause 5](#) includes [5.1](#), [5.2](#), etc.);
- “subclause” means a numbered subdivision of a clause (e.g. [5.1](#), [5.2](#), and [5.3.1](#) are all subclauses of [Clause 5](#)).

References to clauses within this document are preceded by the term “Clause” followed by the clause number. References to subclauses within this particular document are by number only.

In this document, the conjunctive “or” is used as an “inclusive or” so a statement is true if any combination of the conditions is true.

In this document, the following verbal forms are used:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “may” indicates a permission; and
- “can” is used to describe a possibility or capability.

Medical devices — Sleep apnoea breathing therapy — Masks and application accessories

1 Scope

This document specifies requirements for *masks* and *accessories*, including any connecting element, that are required to connect the *patient-connection port* of *sleep apnoea breathing therapy equipment* to a *patient* for the application of sleep apnoea breathing therapy (e.g. nasal masks, exhaust ports and headgear).

This document applies to *masks* and their *accessories* used to connect *sleep apnoea breathing therapy equipment* to the *patient*.

The requirements in this document take priority over the requirements in ISO 18190.

This document does not cover *oral appliances*.

NOTE This document has been prepared to address the relevant *essential principles*^[14] and labelling principles^[15] of the International Medical Devices Regulators Forum (IMDRF) as indicated in [Annex I](#).

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 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment*

ISO 5356-1:2015, *Anaesthetic and respiratory equipment — Conical connectors — Part 1: Cones and sockets*

ISO 5356-2:2012, *Anaesthetic and respiratory equipment — Conical connectors — Part 2: Screw-threaded weight-bearing connectors*

ISO 5356-2:2012/Amd 1:2019, *Anaesthetic and respiratory equipment — Conical connectors — Part 2: Screw-threaded weight-bearing connectors — Amendment 1*

ISO 10993-1:2018, *Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management process*

ISO 14937:2009, *Sterilization of health care products — General requirements for characterization of a sterilizing agent and the development, validation and routine control of a sterilization process for medical devices*

ISO 17664-1:2021, *Processing of health care products — Information to be provided by the medical device manufacturer for the processing of medical devices — Part 1: Critical and semi-critical medical devices*

ISO 17664-2:2021, *Processing of health care products — Information to be provided by the medical device manufacturer for the processing of medical devices — Part 2: Non-critical medical devices*

ISO 18562-1:2024, *Biocompatibility evaluation of breathing gas pathways in healthcare applications — Part 1: Evaluation and testing within a risk management process*

ISO 20417:—¹⁾, *Medical devices — Information to be supplied by the manufacturer*

1) Under preparation. Stage at the time of publication: ISO/DIS 20417:2025.

ISO 17510:2025(en)

ISO 23328-1:2003, *Breathing system filters for anaesthetic and respiratory use — Part 1: Salt test method to assess filtration performance*

ISO 23328-2:2002, *Breathing system filters for anaesthetic and respiratory use — Part 2: Non-filtration aspects*

IEC 61672-1:2013, *Electroacoustics — Sound level meters — Part 1: Specifications*

IEC Guide 115:2023, *Application of uncertainty of measurement to conformity assessment activities in the electrotechnical sector*