
**Ships and marine technology —
Breathing apparatus for ships —**

**Part 2:
Self-contained breathing apparatus for
shipboard firefighters**

Navires et technologie maritime — Appareils respiratoires pour les navires —

Partie 2: Appareils respiratoires autonomes pour les pompiers à bord de navires



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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.

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 23269-2 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 1, *Lifesaving and fire protection*.

ISO 23269 consists of the following parts, under the general title *Ships and marine technology — Breathing apparatus for ships*:

- *Part 1: Emergency escape breathing devices (EEBD) for shipboard use*
- *Part 2: Self-contained breathing apparatus for shipboard firefighters*
- *Part 3: Self-contained breathing apparatus (safety equipment) required by the IMO IBC and IGC Codes*
- *Part 4: Self-contained breathing apparatus for emergency escape required by the IMO IBC and IGC Codes*

Introduction

Chapter II-2 of the International Convention of Safety of Life at Sea 1974 (SOLAS 74), as amended, requires carriage by ships of breathing devices for firefighting purposes. The International Maritime Organization (IMO) International Code for Fire Safety Systems (FSS Code) specifies basic performance requirements for these devices. However, neither SOLAS 74 nor the FSS Code provides specifications in sufficient detail to ensure an adequate level of safety for users.

This part of ISO 23269 provides detailed technical specifications for shipboard breathing apparatus, to supplement the basic requirements in the FSS Code. It takes into account existing European standards for firefighter's outfits for use by professional firefighters, such as EN 136 and EN 137. However, it also takes into account that ships' crews are generally not professional firefighters, and require a more user-friendly ensemble than that specified in the EN standards.

Ships and marine technology — Breathing apparatus for ships —

Part 2:

Self-contained breathing apparatus for shipboard firefighters

1 Scope

This part of ISO 23269 specifies self-contained breathing apparatus for firefighters on board ships, which are required to be carried on ships by Part C (Suppression of Fire) of chapter II-2 of the 1974 International Convention of Safety of Life at Sea (SOLAS 74), as amended, and chapter 3 of the International Code for Fire Safety Systems (FSS Code).

Although the breathing apparatus manufactured in accordance with this part of ISO 23269 are intended for use in fighting small to medium magnitude fires before the operation of any installed fixed firefighting systems, they are not intended or suitable for direct entry into flames.

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.

International Convention of Safety of Life at Sea 1974 (SOLAS 74), Chapter II-2, as amended

IMO International Code for Fire Safety Systems (FSS Code)

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

ISO 23269-1, *Ships and marine technology — Breathing apparatus for ships — Part 1: Emergency escape breathing devices (EEBD) for shipboard use*

EN 136:1998, *Respiratory protective devices — Full face masks — Requirements, testing, marking*

EN 137:2006, *Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with full face mask — Requirements, testing, marking*

EN 469:2005, *Protective clothing for firefighters — Performance requirements for protective clothing for firefighting*

EN 837-1:1996, *Pressure gauges — Part 1: Bourdon tube pressure gauges — Dimensions, metrology, requirements and testing*

EN 13274-2:2001, *Respiratory protective devices — Methods of test — Part 2: Practical performance tests*

EN 13274-3:2001, *Respiratory protective devices — Methods of test — Part 3: Determination of breathing resistance*

EN 13274-4:2001, *Respiratory protective devices — Methods of test — Part 4: Flame tests*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

face blank

main body of a facepiece to which the functional components of the breathing apparatus are attached

3.2

facepiece

part of a breathing device which connects the wearer's respiratory tract to the other parts of the device and isolates the respiratory tract from ambient atmosphere

3.3

visor

part of the facepiece which meets the field of vision requirement of this part of ISO 23269 and can in addition provide eye protection

3.4

cavity

space between the visor and the inner mask adjacent to the face seal

4 General design requirements

Breathing devices shall comply with the following requirements and be tested in accordance with Clauses 5 and 7.

4.1 Breathing apparatus shall be of the self-contained compressed air-operated type for which the volume of air contained in the cylinders shall be at least 1 200 l.

4.2 The breathing apparatus shall be of simple and reliable construction and as compact as possible. The design of the breathing apparatus shall be such as to allow its reliable inspection.

4.3 The breathing apparatus shall be sufficiently robust to withstand the rough usage it is likely to receive in service.

4.4 The breathing apparatus shall be designed so that there are no protruding parts likely to be caught on projections in narrow passages.

4.5 The finish of any part of the breathing apparatus likely to be in contact with the wearer shall be free from sharp edges or burrs.

4.6 The breathing apparatus shall be designed so that the wearer can remove it and, while still wearing the facepiece, continue to breathe from the apparatus.

4.7 The breathing apparatus shall be designed to ensure its full function in any orientation.

4.8 The main valve(s) of compressed air cylinder(s) shall be arranged so that the wearer can operate it (them) while wearing the breathing apparatus and protective firefighters' gloves, see Reference [1].

4.9 The breathing apparatus shall have a suitable audible warning device that operates when the air remaining in the cylinder reaches a predetermined level. Either the warning device shall be activated automatically when the cylinder valve is opened, or if manually activated it shall not be possible to use the apparatus before the device is activated.

4.10 The total mass of the breathing apparatus ready for use with facepiece and fully charged compressed air cylinder(s) shall not exceed 18 kg.

4.11 Air cylinders and their valves shall comply with appropriate national regulations.

4.12 The breathing apparatus shall be equipped with a class 3 full facepiece according to EN 136.