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**Ships and marine technology —  
Pressure-vacuum valves for cargo  
tanks and devices to prevent the  
passage of flame into cargo tanks**

*Navires et technologie maritime — Soupapes de pression/dépression  
pour citernes à cargaison et dispositifs pour empêcher le passage des  
flammes vers les citernes à cargaison*



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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](http://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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 WTO principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

This fourth edition cancels and replaces the third edition (ISO 15364:2016), which has been technically revised.

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

- expansion of the Scope to include devices to prevent the passage of flame into cargo tanks;
- inclusion of requirements for flame transmission tests.

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](http://www.iso.org/members.html).

# Ships and marine technology — Pressure-vacuum valves for cargo tanks and devices to prevent the passage of flame into cargo tanks

## 1 Scope

This document is applicable to pressure-vacuum valves and to devices to prevent the passage of flame, both protecting cargo tanks, that can be subject to explosive gas/vapour and/or to gas/vapour pressure or vacuum beyond the design parameters of the system/tank. It specifies the minimum requirements for performance and testing. It also specifies design and in-service performance criteria, operational testing and maintenance requirements. Design or manufacturing in accordance with this document does not imply suitability for any given installation, it indicates that certain minimum requirements have been considered and that information necessary for determination of suitability is provided to the buyer of the equipment.

The flame test procedures of ISO 16852:2016 are incorporated in this document.

**NOTE** Minimum requirements for devices to prevent the passage of flame are found in the International Maritime Organization (IMO) “International Convention for the Safety of Life at Sea, as amended” (SOLAS), Chapter II-2, Regulation 4, and IMO Maritime Safety Committee (MSC) Circular No. 677 (MSC/Circ. 677), “Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers”, as amended.

## 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 16852:2016, *Flame arresters — Performance requirements, test methods and limits for use*

International Maritime Organization Maritime Safety Committee circular 677 (MSC/Circ. 677), *Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers*, as amended by IMO MSC/Circ. 1009 and MSC/Circ. 1324

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 <http://www.electropedia.org/>

### 3.1

#### **flame arrester**

device fitted to the opening of an enclosure, or to the connecting pipe work of a system of enclosures, and whose intended function is to allow flow but to prevent the transmission of flame