



SLOVENSKI STANDARD
SIST EN ISO 15364:2002
01-januar-2002

Ships and marine technology - Pressure/vacuum valves for cargo tanks (ISO 15364:2000)

Ships and marine technology - Pressure/vacuum valves for cargo tanks (ISO 15364:2000)

Schiffe und Meerestechnik - Über-/Unterdruckventile für Ladetanks (ISO 15364:2000)

Navires et technologie maritime - Robinets a pression/a vide pour citernes de chargement (ISO 15364:2000)

iTeh STANDARD PREVIEW

(standards.iteh.ai)

SIST EN ISO 15364:2002

Ta slovenski standard je istoveten z: **EN ISO 15364:2001**

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-12776dc1c8/sist-en-iso-15364-2002>

ICS:

47.020.30 Sistemi cevi Piping systems

SIST EN ISO 15364:2002 **en**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 15364:2002

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 15364

August 2001

ICS 47.020.30

English version

Ships and marine technology - Pressure/vacuum valves for cargo tanks (ISO 15364:2000)

Navires et technologie maritime - Robinets à pression/à vide pour citernes de chargement (ISO 15364:2000)

Schiffe und Meerestechnik - Über-/Unterdruckventile für Ladetanks (ISO 15364:2000)

This European Standard was approved by CEN on 23 June 2001.

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 Management Centre 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

SIST EN ISO 15364:2002

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>



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

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

EN ISO 15364:2001 (E)

Foreword

The text of the International Standard from Technical Committee ISO/TC 8 "Ships and marine technology" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 300 "Sea-going vessels and marine technology", the secretariat of which is held by DIN.

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 February 2002, and conflicting national standards shall be withdrawn at the latest by February 2002.

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

NOTE FROM CMC: The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

Endorsement notice

The text of the International Standard ISO 15364:2000 has been approved by CEN as a European Standard without any modification.

[SIST EN ISO 15364:2002](https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002)

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>

INTERNATIONAL
STANDARD

ISO
15364

First edition
2000-09-01

**Ships and marine technology —
Pressure/vacuum valves for cargo tanks**

*Navires et technologie maritime — Robinets à pression/à vide pour
citernes de chargement*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 15364:2002](https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002)

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>



Reference number
ISO 15364:2000(E)

© ISO 2000

ISO 15364:2000(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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 15364:2002](https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002)

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

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.ch
Web www.iso.ch

Printed in Switzerland

Contents

	Page
Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Ordering information.....	2
5 Materials	2
6 Other requirements.....	3
7 Approval tests	4
8 Inspection	5
9 Certification	5
10 Marking	6
11 Quality assurance.....	6
12 Flow tests	6
Annex A (normative) Installation requirements for ships subject to the International Convention for the Safety of Life at Sea, 1997 (SOLAS)	8
Annex B (informative) Materials selection guidelines	9
Annex C (informative) Corrosion protection guidelines	10

ISO 15364:2000(E)**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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15364 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

Annex A forms a normative part of this International Standard. Annexes B and C are for information only.

ITIH STANDARD PREVIEW

(standards.iteh.ai)

SIST EN ISO 15364:2002

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>

Ships and marine technology — Pressure/vacuum valves for cargo tanks

1 Scope

This International Standard applies to pressure/vacuum relief valves protecting marine vessel systems, including cargo tanks, that may be subject to gas/vapour pressure or vacuum outside the design parameters of the system/tank. This standard specifies the minimum requirements for performance and testing of pressure/vacuum relief valves, with emphasis on selection of materials, internal finish and surface requirements for pressure/vacuum valves installed on cargo tanks in tankers (see annex A). This standard specifies design and in-service performance criteria and operational testing and maintenance requirements. This standard does not address devices to prevent the passage of flame. Advice on devices to prevent the passage of flame is found in the International Maritime Organization (IMO) "International Convention on the Safety of Life at Sea, 1997" (SOLAS); Chapter II-2, Regulation 59, 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".

iTeh STANDARD PREVIEW

2 Normative references (standards.iteh.ai)

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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".

International Maritime Organization, Assembly Resolution A.746(18), "Survey Guidelines under the Harmonized System of Survey and Certification".

International Maritime Organization, "International Convention on the Safety of Life at Sea, 1997" (SOLAS); Chapter II-2, Regulation 59.

3 Terms and definitions

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

3.1

administration

the government of the state whose flag the ship is entitled to fly

3.2

flame arrester

device to prevent the passage of flame in accordance with a specified performance standard

NOTE Its flame-arresting element is based on the principle of quenching.

ISO 15364:2000(E)**3.3****flame screen**

device utilizing wire mesh to prevent the passage of unconfined flames in accordance with a specified performance standard

3.4**passive flame stopper**

device, such as a flame screen or a flame arrester, that operates passively to prevent the passage of unconfined flames in accordance with a specified performance standard

3.5**high-velocity vent**

device to prevent the passage of flame consisting of a mechanical valve which adjusts the opening available for flow in accordance with the pressure at the inlet of the valve in such a way that the efflux velocity cannot be less than 30 m/s (98 ft/sec) under all flow rates and the actual conditions of installation

3.6**pressure/vacuum valve**

device to prevent the occurrence of over- or underpressure in a closed container

3.7**standard air**

dry air at 21 °C (70 °F) and 1 013,25 hPa (29,92 inHg) pressure

NOTE This is substantially equivalent to air with a density of 1,2 kg/m³ (0,075 lb/ft³). The specific heat of dry air is 1 004,8 J/kg·K (0,24 btu/lb/°F).

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3.8**third-party inspection body**

an organization designated by the administration that is independent of the manufacturer and the user and that performs or witnesses the tests and inspections provided for by this International Standard

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-127776def1c8/sist-en-iso-15364-2002>

4 Ordering information

Orders for devices under this specification shall include the following information, as applicable:

- Nominal pipe size, configuration of pipe, and pipe length.
- Molecular mass and specific heat ratio of each gas or vapour in the tank being protected, and maximum explosive safe gap (MESG) value, if known.
- Inspections and tests other than those specified by this International Standard (see clause 8).
- Set opening points for pressure and vacuum.
- Anticipated ambient air temperature range.
- Materials of construction (see clause 5).
- Maximum flow rate for standard air and the design pressure drop for the piping system at that maximum flow rate, and the maximum allowable tank pressure and tank vacuum.

5 Materials

5.1 The device housing, and other parts or bolting used for pressure retention, shall be constructed of materials suitable for the intended service and listed in a recognized national or international standard.

5.1.1 Housings, discs, spindles, seats, springs, gaskets, seals, passive flame stoppers (when included in the design) and all other integral parts, including parts with coatings to prevent corrosion, shall be made of materials resistant to attack by seawater and the liquids and vapours contained in the tank being protected (see annex C).

5.1.2 Springs plated with corrosion-resistant material are not acceptable.

5.2 Non-metallic materials, other than gaskets and seals, shall not be used in the construction of pressure-retaining components of the device.

5.2.1 Resilient seals may be installed only if the device is still capable of effectively performing its function when the seals are partially or completely damaged or burned.

5.2.2 Non-metallic gaskets shall be made of non-combustible material suitable for the service intended.

5.3 Materials for connecting pressure/vacuum valves to their respective piping systems shall meet standards for physical characteristics similar to those of the piping systems to which they are connected.

5.4 The materials of all parts not identified above shall be suitable for their intended purpose.

5.5 The possibility of galvanic corrosion shall be considered in the selection of materials.

6 Other requirements

6.1 Device housings shall be gastight in the primary pressure zone upstream of the main valve seat to prevent the escape of vapours.

6.2 Housings, elements and seal gasket materials shall be capable of withstanding the maximum and minimum pressures and temperatures to which the device may be exposed under normal operating conditions, and shall be capable of withstanding the hydrostatic pressure test of 7.2.2.64:2002

<https://standards.iteh.ai/catalog/standards/sist/22d2c8ba-d200-4557-9f81-776699999999/iso-15364-2000>

6.3 Where welded construction is used for pressure-retaining components, welded-joint design details, welding and non-destructive testing shall be in accordance with national or international standards. Welders and weld procedures shall be qualified by a recognized organization to ensure consistent-quality production of weld joints that are sound and of proper strength, in accordance with recognized national/international standards.

6.4 When pressure/vacuum relief valves are designed to allow for inspection, cleaning, repair or removal of internal elements for replacement without removing the entire device from the system, the design shall not allow the valve to be incorrectly reassembled following disassembly for inspection, cleaning or repair.

6.5 Pressure/vacuum valves shall be designed such that condensed vapour drains from the device and does not impair the efficiency of the device. The design shall also prevent the accumulation of water inside the device and subsequent blockage due to freezing.

Where the design does not permit complete drainage of condensed vapours through its connection to the tank, the housing shall be fitted with a plugged drain opening on the side of the atmospheric outlet of not less than 13 mm [1/2 inch nominal pipe size (NPS ½)]. The drain shall not allow vapour to escape unless the drain is equipped with suitable means to prevent the passage of flame and meets all requirements for efflux velocity and direction.

6.6 All fastenings essential to the operation of the device shall be protected against loosening.

6.7 Devices shall be designed and constructed to minimize the effect of fouling under normal operating conditions. The design shall be such that the device can be examined for any build-up of residue due to vapour condensation that might impair the operation of the device. The manufacturer's operating manual shall include instructions on how to determine when cleaning is required and shall specify the method for cleaning (see clause 9). For certain cargoes that crystallize, heating arrangements may be necessary.