

**Nafta- ja maagaasitööstused.
Tootmisotstarbelised ujuvpaigaldised. Küte,
ventilatsioon ja kliimaseadmed**

Petroleum and natural gas industries - Offshore
production installations - Heating, ventilation and
air-conditioning

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN ISO 15138:2008 sisaldab Euroopa standardi EN ISO 15138:2007 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 28.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.12.2007.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 15138:2008 consists of the English text of the European standard EN ISO 15138:2007.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 28.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 15.12.2007.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

ICS 75.180.10

Võtmesõnad: air conditioners, heating installation, natural gas, natural gas industries, offshore construction works, offshore platforms, oil industries, petroleum, platforms, ventilation

Standardite reprodutseerimis- ja levitamisoigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
 Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English Version

**Petroleum and natural gas industries - Offshore production
installations - Heating, ventilation and air-conditioning (ISO
15138:2007)**

Industries du pétrole et du gaz naturel - Plates-formes de
production en mer - Chauffage, ventilation et climatisation
(ISO 15138:2007)

Erdöl- und Erdgasindustrie - Offshore-Produktionsanlagen -
Heizung, Lüftung und Klimatisierung (ISO 15138:2007)

This European Standard was approved by CEN on 14 December 2007.

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

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, 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 15138:2007) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum and natural gas industries" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries", the secretariat of which is held by AFNOR.

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 June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 15138:2000.

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

Endorsement notice

The text of ISO 15138:2007 has been approved by CEN as a EN ISO 15138:2007 without any modification.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Abbreviated terms	3
5 Design	4
5.1 Introduction	4
5.2 Development of design basis	7
5.3 System design — General	28
5.4 Area-specific system design	32
5.5 Equipment and bulk selection	42
5.6 Installation and commissioning	42
Annex A (normative) Equipment and bulk selection	43
Annex B (normative) Installation and commissioning	64
Annex C (informative) Operation and maintenance	69
Annex D (informative) Datasheets	72
Annex E (normative) Standard data for flanges	106
Bibliography	109

Petroleum and natural gas industries — Offshore production installations — Heating, ventilation and air-conditioning

1 Scope

This International Standard specifies requirements and provides guidance for design, testing, installation and commissioning of heating, ventilation, air-conditioning and pressurization systems and equipment on all offshore production installations for the petroleum and natural gas industries that are

- new or existing,
- normally occupied by personnel or not normally occupied by personnel,
- fixed or floating but registered as an offshore production installation.

For installations that can be subject to “Class” or “IMO/MODU Codes & Resolutions”, the user is referred to HVAC requirements under these rules and resolutions. When these requirements are less stringent than those being considered for a fixed installation, then it is necessary that this International Standard, i.e. requirements for fixed installations, be utilized.

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 standard (including any amendments) applies.

ISO 7235, *Acoustics — Laboratory measurement procedures for ducted silencers and air-terminal units — Insertion loss, flow noise and total pressure loss*

ISO 8861, *Shipbuilding — Engine-room ventilation in diesel-engined ships — Design requirements and basis of calculations*

ISO 12241, *Thermal insulation of building equipment and industrial installations — Calculation rules*

ISO 12499, *Industrial fans — Mechanical safety of fans — Guarding*

ISO 14694:2003, *Industrial fans — Specifications for balance quality and vibration levels*

ISO 21789, *Gas turbine applications — Safety*

IEC 60079-0, *Electrical apparatus for explosive gas atmospheres — Part 0: General requirements*

IEC 60079-10, *Electrical apparatus for explosive gas atmospheres — Part 10: Classification of hazardous areas*

EN 1751, *Ventilation for buildings — Air terminal devices — Aerodynamic testing of dampers and valves*

EN 50272-2, *Safety requirements for secondary batteries and battery installations — Part 2: Stationary batteries*

ANSI/API RP 505, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class 1, Zone 0, Zone 1 and Zone 2*

IMO Resolution MSC 61(67): *Annex 1, Part 5 — Test for Surface Flammability*

IMO Resolution MSC 61(67): *Annex 1, Part 2: Smoke and Toxicity Test*

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*

3 Terms and definitions

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

3.1

active system

system that relies on energized components

3.2

adequate ventilation

air exchange that is acceptable with reference to the classification code

3.3

displacement ventilation

⟨air displacement units⟩ movement of air within a space in piston- or plug-type motion

NOTE No mixing of room air occurs in ideal displacement flow, which is desirable for removing pollutants generated within a space.

3.4

fixed offshore installation

fixed installation

all facilities, located and installed on fixed offshore structures, that are provided to extract oil and gas hydrocarbons from subsea oil and gas reservoirs

3.5

fixed offshore structure

structure that is bottom-founded and transfers all actions on it to the seabed

NOTE Vessels and drilling rigs, etc. that are in transit or engaged in exploration and appraisal activities are specifically excluded from this definition.

3.6

fugitive emission

continuous emission on a molecular scale from all potential leak sources in a plant under normal operating conditions

NOTE As a practical interpretation, a fugitive emission is one which cannot be detected by sight, hearing or touch but can be detected using bubble-test techniques or tests of a similar sensitivity.

3.7

open area

area in an open-air situation where vapours are readily dispersed by wind

NOTE Typical air velocities in such areas are rarely less than 0,5 m/s and frequently above 2 m/s.

3.8

passive system

system that does not rely on energized components