

This is a preview of "ISO 15138:2018". [Click here to purchase the full version from the ANSI store.](#)

Third edition
2018-06

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

*Industries du pétrole et du gaz naturel — Plates-formes de production
en mer — Chauffage, ventilation et climatisation*



Reference number
ISO 15138:2018(E)

© ISO 2018

This is a preview of "ISO 15138:2018". [Click here to purchase the full version from the ANSI store.](#)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 15138:2018". [Click here to purchase the full version from the ANSI store.](#)

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 General	4
5.2 Development of design basis	6
5.2.1 Orientation and layout	6
5.2.2 Hazardous area classification and the role of HVAC	8
5.2.3 Environmental conditions	9
5.2.4 Natural/mechanical ventilation	12
5.2.5 Selection of controls philosophy	14
5.2.6 Operating and maintenance philosophy	17
5.2.7 Materials and corrosion	19
5.2.8 Design margins and calculations	20
5.2.9 Wind-tunnel and computational fluid dynamics modelling	21
5.2.10 Performance standards	26
5.3 System design — General	27
5.3.1 Natural ventilation	27
5.3.2 Mechanical ventilation	28
5.3.3 Secondary ventilation systems	30
5.3.4 Black start	31
5.4 Area-specific system design	31
5.4.1 Process and utility areas	31
5.4.2 Living quarters	32
5.4.3 Temporary refuge	35
5.4.4 Drilling and drilling utility areas	35
5.4.5 Gas turbine	37
5.4.6 Emergency plant ventilation	38
5.4.7 Battery and charger rooms	39
5.4.8 Laboratories	39
5.4.9 Purge air systems	40
5.4.10 Rooms protected by gaseous extinguishing agents	40
5.4.11 Engine-room ventilation	40
5.4.12 Watertight compartments	41
5.4.13 Air locks	41
5.4.14 Stairs and escape routes	41
5.5 Equipment and bulk selection	42
5.6 Installation and commissioning	42
5.7 Operation and maintenance	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	136
Bibliography	139

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).

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).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, SC 6, *Processing equipment and systems*.

This third edition cancels and replaces the second edition (ISO 15138:2007), which has been technically revised.

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

- minimum and maximum temperatures have been added to [5.2.3.3.4](#) below [Table 2](#) for clarification;
- a requirement for black start has been added to [5.3](#);
- requirements for the specific areas stairways/escape routes and air locks have been added to [5.4](#);
- phase-down and phase-out of high and medium global warming potential (GWP) refrigerants are addressed in [5.4](#);
- a reference to new filtration standard and note for chemical filtration have been added to [Table A.1](#);
- fail safe criteria for fire damper for safety critical areas have been added to [Clause A.9](#);
- requirements for duct earthing have been added to [B.1.1](#);
- the datasheet for DX cooling coil has been updated with electronic expansion valve;
- the datasheet for heating coils has been updated with data for self-generated noise.