International Standard

ISO 13205

Marine technology — Seawater desalination — Vocabulary

Navires et technologie maritime — Dessalement de l'eau de mer — Terminologie

First edition
2024-06

Reference number
ISO 13205:2024(en)

© ISO 2024



COPYRIGHT PROTECTED DOCUMENT

© ISO 2024

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
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
3.1 Basic definitions 1
3.2 Water intake 2
3.3 Pre-treatment 3
3.4 Membrane desalination 4
3.5 Distillation desalination 6
3.6 Post-treatment 8
3.7 Auxiliary terms 9
Bibliography **11**
Index **12**

© ISO 2024 – All rights reserved

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 13, *Marine technology*.

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.

© ISO 2024 – All rights reserved

Introduction

Establishing a standardized set of terms and definitions is highly important for the production of scientific and engineering publications in a technical area, including the development of standards. The absence of a standardized terminology can ultimately result in inefficiencies and a high-probability of misinterpretation.

This document defines terms and definitions used in the entire process of seawater desalination. The flow process of seawater desalination is given in Figure 1. Desalination methods are mainly categorized into distillation processes and membrane processes. Both processes involve mutual parts of water intake, pre-treatment and post-treatment, but differ in terms of membrane desalination and distillation desalination. In addition, the auxiliary terms consisting of membrane cleaning and agents dosing are essential for specific processes.

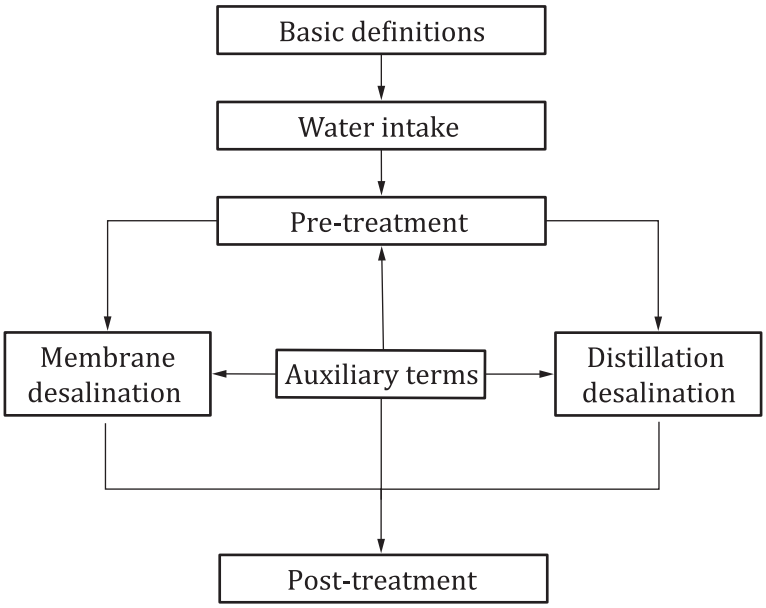


Figure 1 — Flow diagram of seawater desalination terminology

This document aims to provide guidance for unified terminology in seawater desalination; remove any obstacles to communication in management, industry and academia; and promote multi-field cooperation in more countries and regions. The objective of this document is to consolidate unified descriptions of seawater desalination activities, for the benefit of all users and stakeholders.

© ISO 2024 – All rights reserved

Marine technology — Seawater desalination — Vocabulary

1 Scope

This document defines terms and definitions for the integral seawater desalination process. It covers basic definitions, as well as specific subject matter including water intake, pre-treatment, membrane desalination, distillation desalination, post-treatment and auxiliary terms.

This document applies to all types and sizes of seawater desalination facilities and systems, and to all types of stakeholders involved in seawater desalination.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Basic definitions

3.1.1
seawater desalination
process which removes excess substances such as organisms and salts from seawater to make it usable as municipal water, industrial water and for other applications

3.1.2
seawater desalination system
set of interrelated or interacting units for *seawater desalination* (3.1.1) processes, including source *water intake* (3.2.1) system, *pre-treatment* (3.3.1) facilities, membrane and distillation separation devices, post-treatment facilities and electronic control unit, etc.

3.1.3
source water
raw water
inlet water supplied to the *seawater desalination system* (3.1.2)

3.1.4
feed water
inlet water supplied to an individual component or a device of *seawater desalination system* (3.1.2)

3.1.5
desalinated water
freshwater produced by distillation and membrane desalination plants

3.1.6
product water
water produced by *post-treatment* (3.6.3) of *desalinated water* (3.1.5) such as *mineralization* (3.6.4) and *waters blending* (3.6.5)

© ISO 2024 – All rights reserved