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Second edition
2019-05

Ships and marine technology — Aquatic nuisance species —

Part 1: Ballast water discharge sample port

*Navires et technologie maritime — Espèces aquatiques nuisibles —
Partie 1: Appareillage de prélèvement à l'évacuation de l'eau de ballast*



Reference number
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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).

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 8, *Ships and marine technology*.

This second edition cancels and replaces the first edition (ISO 11711-1:2013), which has been technically revised.

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

- The previous edition did not address apparatus needed to collect representative samples of ballast water, nor did it provide procedures for handling or analysing the samples after they have been collected. Accordingly, this second edition of ISO 11711-1 is intended to be complemented with other two Parts in the ISO 11711 series.
- The previous edition provided guidance on the design of "sample ports;" they are now known as "sample probes."
- This edition clarifies issues encountered with the previous edition and provides additional information:
 - A semi-permanently installed probe could become hazardous to ship operations if there is excessive bio-fouling in or corrosion of the pipe.
 - The first edition did not contain sufficient details to allow for multiple available sample probe configurations and installation methods.
- The end user is now addressed in each of the parts of the ISO 11711 series. For example, this document is intended for ship owners, designers and crew for accessing the main ballast pipe for sampling; ISO 11711-2 is intended for port state control or other sampling parties; a future Part will be intended for personnel analysing the samples.

A list of all the parts in the ISO 11711 series can be found on the ISO website.

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.

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Introduction

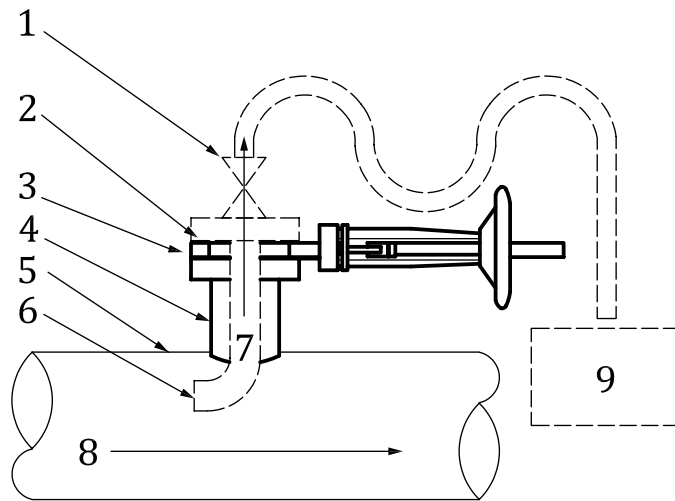
This document provides guidance to shipboard personnel and other concerned parties on designs, installations and procedures required to obtain representative samples of ballast water from the ballast water discharge piping prior to discharge. ISO 11711-1 defines arrangements for shipboard ballast piping and fittings that are independent of the sampling apparatus used by sampling teams. ISO 11711-2¹⁾ will provide guidance on the selection and use of sampling apparatus needed to collect and process the samples on board the vessel. These concepts are illustrated in [Figure 1](#). A future part will provide methodologies to analyse the samples and determine compliance with ballast water discharge regulations.

Sampling is intended to determine whether ballast water is in compliance with regulatory discharge standards, such as during the installation or evaluation of ballast water treatment equipment, periodic ballast water discharge assessments or during a port state control inspection of the ballast water being discharged.

The sampling guidance provided by the ISO 11711 series is intended to support measurement of organism counts in ballast discharge piping consistent with the requirements of the International Maritime Organisation (IMO) D-2 discharge standard. Such measurement requires the collection and analysis of representative samples, i.e. the makeup of the sample is representative of the water flowing in the ballast pipe over the period of sample collection.

The guidance provided by the ISO 11711 series is valid only for turbulent flows within the ballast discharge pipe. Selecting appropriate sample probes and controlling sample flows to meet representative sampling constraints will be discussed in ISO 11711-2.

1) Under development.



Key

- | | | | |
|---|----------------------------------|---|--------------------------|
| 1 | sample collection device valve | 6 | sample probe |
| 2 | sample port access flange | 7 | sample water flow |
| 3 | sample port valve | 8 | ballast water flow |
| 4 | sample port | 9 | sample collection device |
| 5 | ballast main pipe | | |

————— ISO 11711-1 - BALLAST WATER SAMPLE PORT - FITTING ARRANGEMENTS

- - - - - ISO 11711-2 - ON-BOARD BALLAST WATER SAMPLING AND SAMPLE PROCESSING

NOTE 1 Figure not to scale.

NOTE 2 The figure shows a sample port arranged perpendicular to the main ballast flow.

Figure 1 — Illustration of the Scopes of ISO 11711-1 and ISO 11711-2