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**BS ISO 11711-1:2013**



BSI Standards Publication

# **Ships and marine technology — Piping and machinery — Ballast water sampling and analysis**

Part 1: Discharge sampling port

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# **Ships and marine technology — Piping and machinery — Ballast water sampling and analysis —**

## **Part 1: Discharge sampling port**

*Navires et technologie maritime — Tuyauterie et machines —  
Échantillonnage et analyse de l'eau de ballast —*

*Partie 1: Appareillage de prélèvement à l'évacuation*



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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. [www.iso.org/directives](http://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. [www.iso.org/patents](http://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.

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

ISO 11711 consists of the following parts, under the general title *Ships and marine technology — Piping and machinery — Ballast water sampling and analysis*:

— *Part 1: Discharge sampling port*

The following parts are under preparation:

— *Part 2: On-board ballast water sampling and sample processing*

— *Part 3: Analyses of ballast water samples*

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## Introduction

This part of ISO 11711 provides guidance to shipboard personnel and other concerned parties on the design and installation of the sampling port required to obtain representative samples of ballast water from the ballast water discharge piping prior to discharge. Parts 2 and 3 of this part of ISO 11711 will provide guidance on how to handle and process the samples on board the vessel, and on how to analyse the samples to determine compliance with ballast water discharge requirements, respectively.

Although it is recognized that sampling of the actual tanks is possible through various methods, the primary concern for port and flag state officials is verification of the efficacy of the ballast water management system (BWMS) in preventing the unwanted discharge. The only true way to measure what is being sent overboard in ballast water is to sample the ballast discharge as near as possible to the actual overboard.

**NOTE** This part of ISO 11711 is written for sampling after the BWMS treatment, and prior to the discharge of ballast water, in order to assess the effectiveness of the BWMS. However, sample ports can also be installed elsewhere on a vessel for other purposes, such as experimental assessment of prototype BWMSs. In such cases, similar sample ports could also be installed prior to the treatment (ballast uptake side) in order to make a comparison between the ballast uptake and discharge.

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# Ships and marine technology — Piping and machinery — Ballast water sampling and analysis —

## Part 1: Discharge sampling port

### 1 Scope

This part of ISO 11711 provides guidance to shipboard personnel and other concerned parties on the materials, design, and installation of equipment used to take samples of treated ballast water from the ballast water discharge pipe onboard a vessel. The purpose of the sampling system is to enable the taking of a representative sample in order to verify that the ballast water management system (BWMS) is working as designed, i.e. the treatment is reducing the concentration of living organisms to levels established in discharge standards. The intent of the sampling installation is to provide a representative sample of the ballast water effluent with adequate pressure and flow.

### 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 document (including any amendments) applies.

ISO 14726, *Ships and marine technology — Identification colours for the content of piping systems*

ISO 15614 (all parts), *Specification and qualification of welding procedures for metallic materials — Welding procedure test*

### 3 Terms and definitions

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

#### 3.1

##### **ballast water**

water with its suspended matter taken on board a ship to control trim, list, draught, stability or stresses of the ship

#### 3.2

##### **ballast water system**

arrangement of pumps, piping and tanks on ships used to control vessel trim, draft and stability

Note 1 to entry: Benefits of this system can include increased propeller immersion and improved steering. One disadvantage of ballast water systems is the potential dispersal of harmful aquatic organisms.

#### 3.3

##### **ballast water management system**

##### **BWMS**

equipment that processes ballast water such that the water discharged (the treated water) meets the specified performance requirements for elimination of harmful aquatic organisms

Note 1 to entry: The BWMS includes all associated control equipment, monitoring equipment, and sampling facilities.