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**Ships and marine technology — Design  
requirements for international ballast  
water transfer connection flange**



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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](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 (see [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.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

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](http://www.iso.org/members.html).

## Introduction

It is recognized that transfer of ballast water between a ship and a shore-side facility, or another ship, can be necessary to manage ballast water treatment.

In order for ships and shore facilities to connect the ballast water transfer piping in an efficient manner, a standardized interface flange is necessary. This type of connection would be similar to the international fire main ship/shore connection required by the International Convention for the Safety of Life at Sea (SOLAS).

The need for a standardized international flange for ballast water transfer systems has been presented to the International Maritime Organization (IMO) Marine Environmental Protection Committee (MEPC). A standard transfer connection will help enable efficient transfer of ballast water between ships and facilities in accordance with the Guidelines of the International Maritime Organization (IMO Resolution MEPC.153(55) – G5).



# Ships and marine technology — Design requirements for international ballast water transfer connection flange

## 1 Scope

This document specifies the material requirements and dimensions of an international flange for the transfer of ballast water between a ship and a shore reception facility, or between ships.

It does not address any reconfiguration of the ship's ballast water piping system necessary to connect to the shore-side, e.g. construction of piping from the ship lower machinery levels to the main deck transfer area.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **international flange for ballast water transfer systems**

pipe fitting installed on both the ship and shore side of a ballast water transfer system, having standardized dimensions to facilitate worldwide connectivity

### 3.2

#### **maximum allowable working pressure**

highest stress to which a piping system component can be subjected, based on materials, thickness and design calculations

## 4 Abbreviated terms

DN	diameter nominal
PN	pressure nominal
MAWP	maximum allowable working pressure

## 5 Materials and equipment

### 5.1 General

International flanges for ballast water transfer systems shall be flat-faced and of steel or equivalent material construction. Flanges shall be galvanically compatible with the piping system to which they are installed. All other parts of the system shall be constructed of materials suitable for the service