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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 23428-2026

Replacing GB/T 23428-2009

Ships and marine technology - Heading control systems

船舶和海上技术 艏向控制装置

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 23428-2009 "Board and Marine Technology Bowing Control Devices" and is consistent with GB/T 23428-2009.

Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows.

---Terminology and definitions have been changed (see 3.1, Chapter 3 of the 2009 edition);

---Added abbreviations (see 3.2);

---The International Maritime Organization (IMO) performance requirements stipulated in each clause have been added (see Chapter 4). Furthermore, Chapter 4 has been divided into operational requirements.

The requirements for functions and control performance (see 4.2~4.4) have been revised, and corresponding testing regulations have been added (see Chapters 6~8).

---Added requirements including standard alarm identifiers, BAM requirements, test methods, communication procedures, and other implementation-related requirements (see...).

4.3.4, 7.4, Appendix B);

---Added test procedures and required test results for using IEC 62065:2025 ship motion simulators (see Chapter 5~).

Chapter 8);

---Added requirement for performance testing of the bow control system using an IEC 62065 ship model and wave disturbances (see Appendix A);

---The interface requirements related to IEC 61162 have been changed and detailed (see Appendix C, 4.3.15.3 of the 2009 edition).

This document is equivalent to ISO 11674:2019 "Boards and marine technology - Bow control apparatus".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Marine Electrical and Electronic Equipment (SAC/TC531).

1 Scope

This document specifies the minimum operational requirements, functional requirements, control performance requirements, and test methods for bow control devices installed on ships.

And the corresponding necessary test results.

This document applies to heading control devices that conform to the performance standards adopted in Annex 3 of International Maritime Organization (IMO) Resolution MSC.64(67).

This document describes a ship motion simulator used for performance testing, based on a ship model employing a propeller propulsion and conventional rudder combination system. Its speed...

The range can reach up to 30 kN. The test results are also applicable to ships operating with multiple parallel rudders.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

IEC 61162-1 Digital interfaces for marine navigation and radio communication equipment and systems - Part 1: Single transmitters and rudder receivers IEC 61162-2 Digital interfaces for marine navigation and radio communication equipment and systems - Part 2: Single transmitters and multiple receivers Note. GB/T 31843.2-2019 Digital Interfaces for Marine Navigation and Radio Communication Equipment and Systems Part 2: Single Transmitter and Multiple Receiver High-Reception Interfaces High-speed transmission (IEC 61162-2:1998, IDT) IEC 61162-450 Digital interfaces for marine navigation and radio communication equipment and systems - Part 450: Multiplexers and multiplex receivers Note. GB/T 31843.450-2019 Digital Interfaces for Marine Navigation and Radio Communication Equipment and Systems - Part 450: Multiplexers and Multiplex Receivers Ethernet connectivity (IEC 61162-450:2018, IDT) results)

Note 1: There are no technical differences between the content referenced in IEC 62065:2025 and the content referenced in IEC 62065:2014.

Note 2: GB/T 37417-2019 Operation and performance requirements, test methods and specifications for marine navigation and radio communication equipment and systems, track control systems.

The required test results (IEC 62065:2014, MOD) IEC 62288 Marine navigation and radio communication equipment and systems - General purpose of displaying navigation information on marine navigation displays.

IEC 62923-1:2018 Marine navigation and radio communication equipment and systems - Bridge alarm management - Part 1: Operation and safety