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

GB/T 8016-2009

Replacing GB/T 8016-1995

Marine echo-sounding equipment

船用回声测深设备

(English Translation)

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Foreword

This revised standard adopts ISO 9875:2000 "Ships and marine technology - Marine echo sounding device ---" (in English), including its technical Corrigendum First Edition ISO 9875:2000/Cor. 1:2006 (E).

This standard is based on ISO 9875:2000 re-drafted. The standard lists the reg number and ISO 9875 in Appendix A. No. 2000 reg Control list.

Taking into account the situation of our country, the present standard in the use of international standards has been modified. These technical differences are identified in the single vertical line Margin involved in terms of pages. In Appendix B gives a list of these technical differences and the reasons for the reference.

For ease of use, this standard also made the following editorial changes.

- "This International Standard" be replaced by "this standard";
- Delete foreword international standards;
- Delete abbreviated terminology of international standards;
- Delete international standards Appendix B.

This standard replaces GB/T 8016-1995 "Marine echo sounding equipment general technical conditions." this standard compared with GB/T 8016-1995 The main changes are

as follows.

- Modify the term (1995 Edition Chapter 3, Chapter 3 of this edition);
- Remove the device classification (Chapter 4 of the 1995 edition);
- Modify the electrical requirements (1995 version 5.4, this version 4.2.2);
- Technical parameters, delete the "probability of detection" and "false alarm rate" to increase "the minimum detectable signal to noise ratio" [1995 edition 5.5.2.8, this edition 4.2.7g)];
- Technical parameters, delete the words "the transmitting transducer equivalent electrical impedance," "receiving transducer equivalent electrical impedance," "receiving transducer sensitivity Degree "and" receiving transducer Bandwidth "(1995 version 5.5.2.12 ~ 5.5.2.15);
- Modify the scale range requirements (1995 version 5.5.3, this version 4.2.9);
- Modify the display requirements (1995 version 5.5.4, this version 4.2.10);
- Increased data storage requirements (see 4.2.12);
- Modify the accuracy of the claim (1995 version 5.5.6, this version is 4.2.13);
- Increased the alarm indication and requirements (see 4.2.14);
- Increased ergonomic requirements (see 4.2.15);
- Interface requirements listed separately (1995 version 5.1.6, this version is 4.2.16);
- Listed separately electromagnetic compatibility requirements (1995 version 5.4.3, this version is 4.2.17);
- Modify the environmental suitability requirements (1995 version 5.6, this version of 4.2.18);
- Modify the inspection rules (1995 edition, Chapter 7, Chapter 6 of this edition);
- Modify the logo, packaging, transportation and storage (1995 edition, Chapter 8, Chapter 7 of this edition);
- Modify normative appendix "Calculation Marine echo sounding device excellent value" (1995 edition Appendix A, this edition of Appendix C);
- Increase the informative Appendix A and Appendix B. Profile Appendix C of this standard is a normative appendix, Appendix A and Appendix B is an informative annex.

The standard proposed by China Shipbuilding Industry Corporation.

This standard by the National Standardization Technical Committee boat ocean nautical instruments Technical Committee (SAC/TC12/SC5) centralized.

This standard was drafted. China Shipbuilding Industry Corporation Ltd. sound of the sea.

1 Scope

This standard specifies the technical requirements of marine echo sounding equipment, test methods and inspection rules.

This standard applies to maritime, inland navigation, hydrographic and other special-purpose marine echo sounding device (hereinafter referred to as the device) is provided Design, production and testing.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (excluding corrections) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 191 Packaging - Pictorial signs (GB/T 191-2008, ISO 780:1997, MOD) GB/T 3047.1 height of 20mm hex panels, rack and cabinets Series of basic dimensions GB/T 3477-2008 Marine weathertight single-leaf steel doors GB/T 3947 Acoustics Terminology GB 4793.1-2007 measurement, control and laboratory safety requirements for electrical equipment Part 1. General requirements (IEC 61010-1.

2001, IDT)

GB/T 7965-2002 Acoustics Underwater Acoustic Transducer GB/T 10250-2007 Electromagnetic compatibility of ship electrical and electronic equipment (IEC 60533:1999, IDT) GB/T 11463-1989 reliability tests for electronic measuring instruments GB/T 12267-1990 Marine navigational equipment - General requirements and test methods (eqv IEC 60945. 1988) GJB4.8-1983 ship electronic equipment Environmental test Britain earthquake test GJB23A-1999 General specification for sonar transducer CB673-1977 access hatch CB1146.2-1996 ship equipment Environmental test and engineering guidance hypothermia CB1146.8-1996 ship equipment Environmental test and engineering guidance tilt and sway

3 Terms and Definitions

GB/T 3947 and established the following terms and definitions apply to this standard.

In the acoustic axis of the transducer, the sound from the effective center of 1m at maximum RMS SPL reference sound pressure 1μPa, in the far field measurements. Its value Expressed in decibels.

Transducer as a transmitter, the power density in the sound of the acoustic axis of a far

point, have the same acoustic radiation equivalent functions omnidirectional transducer
Acoustic functional density ratio a little different. Its value is expressed in decibels.

Output system corresponding maximum bandwidth than its corresponding low of 3dB. Its
value is expressed in decibels. Reception bandwidth is calculated as follows.