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National Standard of the People's Republic of
China

GB/T 32065.5—2015

Environmental Test Methods for
Oceanographic Instruments
— Part 5: High Temperature Storage
Test

海洋仪器环境试验方法

第 5 部分：高温贮存试验

(English Translation)

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Foreword

GB/T 32065 *Environmental Test Methods for Oceanographic Instruments* consists of the following 17 parts:

- Part 1: General
- Part 2: Low-temperature test
- Part 3: Low-temperature storage test
- Part 4: High-temperature test
- Part 5: High-temperature storage test
- Part 6: Steady damp-heat test
- Part 7: Cyclic damp-heat test
- Part 8: Temperature variation test
- Part 9: Mold growth test
- Part 10: Salt spray test
- Part 11: Shock test
- Part 12: Crash test
- Part 13: Inclining and swing test
- Part 14: Vibration test
- Part 15: Hydrostatic pressure test
- Part 16: Seawater corrosion test
- Part 17: Combined temperature, humidity, vibration test

This is Part 5 of GB/T 32065.

This part was drafted according to the rules of GB/T1.1-2009.

This part was proposed by the State Oceanic Administration.

This part was prepared by SAC/TC283 (National Technical Committee on Oceans of the Standardization Administration of China).

The drafting unit of this part: National Center of Ocean Standards and Metrology

The main drafters of this part:

Environmental test methods for oceanographic instruments

Part 5: High-temperature storage test

1 Scope

This part of GB/T 32065 specifies the test requirements, test procedures and relevant information pertaining to high-temperature storage tests for marine instruments.

This part is used to examine or determine the adaptability of marine instruments when stored under high-temperature environment conditions.

2 Normative References

This document references the following document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 32065.1-2015 Environmental test methods for oceanographic instruments - Part 1: General

3 Test Requirements

3.1 General requirements

The standard atmospheric conditions, specimen installation, test temperature stability, and test-interruption handling of high-temperature storage tests for marine instruments shall be performed according to the provisions given in 4.2, 6.1, 6.2 and clause 7 of GB/T 32065.1-2015.

3.2 Test equipment

3.2.1 The test equipment shall meet the provisions given in Clause 5 of GB/T 32065.1-2015.

3.2.2 In the test, the specimen shall be as close as possible to the center of the test chamber. The minimum distance from any of its surfaces to the nearest test chamber wall shall be greater than 15 cm, and the wind speed in the test chamber shall not exceed 1.7 m/s.

3.2.3 The specimen in the test chamber shall not be directly radiated by any heating or cooling element.

3.2.4 The water vapor in the test chamber shall not exceed 20 g/m^3 (which is equal to 50% of relative humidity at 35 °C).

3.3 Temperature

Unless otherwise specified, the temperature of the high-temperature storage test for marine instruments shall be selected from the following values:

- a) $(55 \pm 2)^\circ\text{C}$;
- b) $(70 \pm 2)^\circ\text{C}$.

Note: 70°C is only applicable to extreme storage environments, such as would be encountered in North Africa, Middle East, Pakistan and India, Southwest United States and Northern Mexico, and regions around the equator.

3.4 Duration

Unless otherwise specified, the duration of the high-temperature storage test for marine instruments should be 8 h.

4 Test Procedure

4.1 Preconditioning

Place the specimen under the standard atmospheric conditions to allow the specimen to reach temperature stability. Alternatively, perform the pretreatment according to the relevant specification (such as the product standard, test program or test contract, as described below).

4.2 Initial measurements

Perform the appearance inspection, as well as electrical, mechanical and other performance testing of the specimen according to the provisions of the relevant specification, and record the testing data.

4.3 Condition test

4.3.1 The specimen shall be placed in the test chamber under the unpackaged and power-off state, and then the temperature of the test chamber shall be adjusted to the set value with the $(0.7\sim 1.0)^\circ\text{C}/\text{min}$ rate of temperature change.

4.3.2 After the specimen reaches temperature stability again, keep the time specified in 3.4.

4.3.3 When the test ends, the specimen shall be kept in the test chamber. The temperature of the test chamber shall be reduced to the standard atmospheric temperature of the test with the $(0.7\sim 1.0)^\circ\text{C}/\text{min}$ rate of temperature change. The temperature shall be maintained until the specimen attains temperature stability.

4.4 Recovery

Unless otherwise specified, the recovery shall be performed according to the provisions of 6.3 in the part of GB/T 32065.1-2015.

4.5 Final measurements

Perform the appearance inspection, and the electrical, mechanical and other performance testing of the specimen according to the provisions of the relevant specifications, and record the testing data.

5 Relevant Information

When this test is included in the relevant specification, the following details shall be given as far as they are applicable:

- a) Pretreatment;
- b) initial measurements;
- c) State of the specimen during the condition test;
- d) Temperature and duration;
- e) Recovery;
- f) Final measurements;
- g) Any deviation in procedure as agreed upon between customer and supplier.

Annex A
(Informative)
Record Form of Testing Data of Specimens

The record form of testing data of specimens is used to record the relevant data for initial and final testing. For details, see Table A.1.

Table A.1 Record Form of Testing Data

Testing sample information				
Test item		Specimen name		
Specimen model		Specimen no.		
Specimen characteristic description				
Main equipment used for testing				
Name	Measurement range	Accuracy class or maximum permissible error	Certificate no.	Valid until
Testing situation				
Initial testing				
Final testing				