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

GB/T 30503-2026

Replacing GB/T 30503-2014

General specification for marine nitrogen gas generators

船用制氮装置通用技术条件

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Table of Contents

Foreword	III
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification, basic parameters and product marking	2
4.1 Classification	2
4.2 Basic parameters	2
4.3 Product marking	3
5 Structure and design	3
5.1 Structure	3
5.2 Design	4
6 Technical requirements	5
6.1 Appearance quality	5
6.2 Materials	5
6.3 Performance	5
6.4 Electrical performance	6
6.5 Control and protection	6
6.6 Continuous operation	7
6.7 Environmental adaptability	7
7 Test methods	7
7.1 Test conditions	7
7.2 Instruments for test measurement	8
7.3 Test items and methods	8
8 Inspection rules	12
8.1 Classification of inspection	12
8.2 Type inspection	12
8.3 Factory inspection	12
9 Marking	13
10.3 Storage	14
Annex A (Informative) Block diagram of a pressure swing adsorption nitrogen generator	15
Annex B (Informative) Block diagram of a membrane separation nitrogen generator	16

Foreword

This document was issued on 30 July 2026 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 February 2027.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies.

It is classified under ICS 47.020.50 and Chinese classification U 42.

The document runs to 23 pages. The identification, the dates, the classification and the table of contents on this page are taken from the cover and the printed contents of the standard itself.

This document was drafted in accordance with GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document replaces GB/T 30503-2014 "General specification for marine nitrogen gas generators". Compared with the 2014 edition, apart from structural adjustments and editorial changes, the main technical changes are as follows:

- the scope of application of the document has been changed (see Clause 1; Clause 1 of the 2014 edition);
- the term "refrigerated dryer" has been added (see 3.5);
- the nitrogen flow rate parameter range, the specific energy consumption, the nitrogen purity of membrane separation generators and the nitrogen outlet pressure of pressure swing adsorption generators have been changed, and the system design pressure has been added (see 4.2; 4.2 of the 2014 edition);
- the requirement for an air heating unit downstream of the air purification unit in membrane separation generators has been changed (see 5.1.3; the 2014 edition).

1 Scope

GB/T 30503 is the Chinese general specification for marine nitrogen generators, the plant that produces nitrogen on board a ship to inert cargo tanks. On a tanker the atmosphere above the cargo has to be kept below the oxygen level at which hydrocarbon vapour can ignite, and the generator is what keeps it there: it is a safety system, not an auxiliary. The document covers classification, basic parameters and product marking, structure and design, the technical requirements including performance, electrical performance, control and protection, continuous operation and environmental adaptability, the test methods, the inspection rules and the marking, packaging, transport and storage. Two informative annexes give the block diagrams of the pressure swing adsorption and membrane

separation types. The 2026 edition replaces GB/T 30503-2014, changing the flow, purity and pressure parameters and adding a system design pressure.

4 Classification, basic parameters and product marking

Clause 4 is organised as follows: 4.1 Classification; 4.2 Basic parameters; 4.3 Product marking.

5 Structure and design

Clause 5 is organised as follows: 5.1 Structure; 5.2 Design.

6 Technical requirements

Clause 6 is organised as follows: 6.1 Appearance quality; 6.2 Materials; 6.3 Performance; 6.4 Electrical performance; 6.5 Control and protection; 6.6 Continuous operation; 6.7 Environmental adaptability.

7 Test methods

Clause 7 is organised as follows: 7.1 Test conditions; 7.2 Instruments for test measurement; 7.3 Test items and methods.

8 Inspection rules

Clause 8 is organised as follows: 8.1 Classification of inspection; 8.2 Type inspection; 8.3 Factory inspection.