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

GB/T 19312-2025

Replacing GB/T 19312-2003

**Small carft - Ventilation of petrol engine and/or petrol tank
compartments**

(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 19312-2003 "Ventilation of Gasoline Engine and/or Gasoline Tank Compartments in Small Boats" and is consistent with GB/T 19312-2003.

In comparison, aside from structural adjustments and editorial changes, the main technical changes are as follows.

---Added terms and definitions for "living quarters," "clean cabin capacity," "permanent installation," "small boat," "ventilation," and "weatherproof cover" (see 3.1).

3.2, 3.4, 3.5, 3.6, 3.7);

---The Chinese translation of "opentotheatmosphere" has been changed (see 3.3, 3.1 in the 2003 edition);

---The requirement for natural ventilation in the gasoline tank compartment has been changed (see 4.1, 2003 edition 4.1);

---The ventilation requirements for the gasoline engine compartment have been changed (see 4.2, 2003 edition 4.2);

---The requirements for calculating ventilation volume have been changed (see 4.3, 2003 edition 4.3);

---Added requirements for ventilation duct drainage capacity (see 4.4);

---The conditions for determining whether a compartment containing a stationary gasoline engine and/or stationary gasoline tank is separated from enclosed living quarters have been changed.

(See 4.5, 4.4 in the 2003 edition);

- The requirement that gasoline engines or gasoline tank compartments exposed to the atmosphere do not require ventilation has been removed (see 4.5 in the 2003 edition);
- Increased ventilation requirements for portable fuel tank storage compartments (see 4.6);
- Added external opening requirements for ventilation inlets and exhaust outlets (see 4.7);
- Added requirements for the layout of ventilation ducts or openings (see 4.9);
- Added a minimum internal cross-sectional area requirement for the ventilation ducts in the gasoline tank compartment (see 4.10);
- Added a minimum internal cross-sectional area requirement for the ventilation ducts in the gasoline engine compartment (see 4.11);
- Added requirements for the arrangement of external openings in the intake and exhaust pipes (see 4.12);
- Changes have been made to the minimum internal cross-sectional area requirements for end fittings and ventilation openings used in the installation of flexible ventilation ducts (see 4.13, 2003).

Version 5.5);

- Added fire protection requirements for items installed in compartments, lockers, or spaces containing gasoline engines, gasoline tanks, and gasoline pipeline connections.
(See 4.14);
- Increased ventilation requirements when the total area of a compartment or space exceeds 2% of the area of an adjacent and connected ventilated compartment (see 4.15);
- The requirement for cabins to be equipped with natural ventilation systems has been changed (see 5.1, 5.1 in the 2003 edition);
- The method for achieving natural ventilation by adjusting the airflow within the cabin has been modified (see 5.2, 2003 edition 5.2);
- The requirements for the size of natural ventilation openings have been changed (see Figures 1 and 2, Figure 1 in the 2003 edition);
- The minimum internal cross-sectional area requirement for each intake opening or pipe, and each exhaust opening or pipe, has been removed (see the 2003 edition).
- Increase the minimum requirements for cabin ventilation (see Table 1);
- Increase the required number of exhaust fans for each gasoline engine used for propulsion (see 6.2);
- Add the requirement that the powered ventilation system should not be automatically activated by a steam detector (if installed) (see 6.4);

- Add indication requirements for the exhaust fan switch (see 6.5);
- The operating requirements for exhaust fans have been changed (see 6.6, 6.4 in the 2003 edition);
- Added requirements for exhaust fan protection device configuration (see 6.7);
- Added operating requirements and performance curves for the exhaust fan system (see 6.8, Figure 3);
- The installation requirements for the exhaust fan inlet have been changed (see 6.9, 6.3 in the 2003 edition);
- Added requirements regarding the distance between air intakes and exhaust pipes within the cabin (see 6.10);
- Added guidelines for referencing graphics (see Figure 4);
- Added content that should be included in the boat owner's manual (see 7);
- Added a procedure for determining the rated value of exhaust fans (see Appendix A).

This document is equivalent to ISO 11105:2020 "Ventilation of gasoline engine and/or gasoline tank compartments in small boats".

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 Small Boats.

1 Scope

This document specifies the gasoline engines used for propulsion, power generation, or mechanical power in small boats with a hull length not exceeding 24m.

Ventilation requirements for gasoline tank compartments are also specified to prevent the accumulation of explosive gases in these compartments.

This document does not apply to personal boats.

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.

GB/T 17726-1999 Electrical installations for small boats - protection against ignition of surrounding flammable gases (ISO 8846:1990, IDT) GB/T 19310-2025 Permanently Installed Fuel Systems for Small Boats Note. There are no technical differences between the content referenced in ISO 10088:2013 and the content referenced in GB/T 19310-2025.

ISO 11192:2005 Smallcraft - Graphical symbols Note. GB/T 19918-2005 Graphic symbols for small boats (ISO 11192:2000, IDT)

3 Terms and Definitions

The following terms and definitions apply to this document.

habitable space

A dwelling enclosed by a permanent structure, providing facilities for any of the following activities. sleeping, cooking, preparing food, washing/using the toilet, or guiding others.

Navigation, driving.

Note: This excludes spaces specifically used for storage, whether or not they are open-air cockpits or cabins with tarpaulins.

NetcompartmentVolume the volume obtained by subtracting the volume of permanently installed (3.4) equipment and accessories from the total compartment volume.

Open to the atmosphere A compartment or space with a net volume of at least 0.34 m³ of permanent opening area directly exposed to the atmosphere.

Permanently installed it must be securely fixed; tools such as wrenches and screwdrivers must be used for disassembly.

Small boat

Recreational boats with a hull length (LH) not exceeding 24m and other vessels using similar equipment.

Note: The hull length is defined in GB/T 19916-2025.