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

GB/T 19839-2025

Replacing GB/T 19839-2005

General specification for industrial oil and gas burners

工业燃油燃气燃烧器通用技术条件

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 19839-2005 "General Technical Specifications for Industrial Oil and Gas Burners" and is consistent with GB/T 19839-2005.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added the applicable limits of the scope (see Chapter 1, Chapter 1 of the 2005 edition);
- b) Added the terms "reference oxygen content", "converted emission concentration", "low nitrogen burner" and their definitions (see 3.4 to 3.6), and deleted the terms "Oil and gas dual-fuel burners" and their definition (see 3.5 of the 2005 edition);
- c) Added "Classification and Model Establishment" requirements (see Chapter 4);
- d) Added the structure of low-nitrogen burners with external flue gas recirculation, burner energy-saving design requirements and electrical explosion-proof design requirements (see 5.1.1.2, 5.1.2, 5.1.3);
- e) The requirements for the strength and tightness of the medium pipeline have been changed (see 5.3, 4.2 of the 2005 edition);
- f) Added the requirements for the operating sequence of oil burners (see 5.5.1.1), and deleted the requirements for the procedure of fuel nozzle burners without auxiliary ignition.

See 4.4.1.1 of the 2005 edition;

g) Changed the requirements for dielectric strength voltage and safety time limit of control box (see 5.6.1.1, 5.6.4, 4.5.1.2, 2005 edition) 4.5.4), added the requirements for the safety shut-off valve in the fuel control valve group (see 5.6.5.1), changed the safety link of the oil burner Lock and alarm requirements (see 5.6.5.2, 4.5.5.1 of the 2005 edition);

h) Modified the requirements for combustion stability, combustion completeness and thermal nitrogen oxides generation (see 5.8.2 to 5.8.4, 2005 edition) 4.7.2~4.7.4);

i) Changed the requirements for degree of protection of electrical enclosures (see 5.11, 4.10 of the 2005 edition);

j) Added test conditions (see 6.1), changed the medium pipeline strength and tightness test method, aerodynamic performance test method, control Box dielectric strength and insulation resistance test method, combustion stability test method, thermal nitrogen oxide calculation method, electrical enclosure Protection level test method and environmental adaptability test method (see 6.3, 6.4, 6.6.1, 6.8.3, 6.8.5, 6.11 and 6.13, 2005 Versions 5.3, 5.4, 5.6.1, 5.8.3, 5.8.5, 5.11, and 5.12);

k) Changed the requirements for packaging marking (see 8.2, 7.2 of the 2005 edition);

l) The requirements for product packing have been changed (see 9.1.3, 8.1.3 of the 2005 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Technical Committee for Standardization of Marine Machinery (SAC/TC137).

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This document was first published in 2005 and this is the first revision.

1 Scope

This document specifies the classification and model compilation, requirements, inspection rules, marking, packaging, transportation and storage of industrial oil and gas burners.

The corresponding test methods are described.

This document applies to the design of mechanically ventilated oil and gas burners (hereinafter referred to as "burners") with an output power of not less than 60kW.

The design, manufacture and acceptance of alcohol-based fuel and biomass oil and gas burners for industrial furnaces shall be implemented in accordance with this standard.

This document is not applicable to the design, manufacture and acceptance of natural draft burners.

2 Normative references

GB/T 1236-2017

GB/T 2423.1-2008

GB/T 2423.2-2008

GB/T 2423.3-2016

GB/T 3836.2

GB/T 4208-2017

GB/T 13384-2008

GB/T 36699-2018

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

A burner that uses oil pressure to atomize and burn fuel.

3.2 Rotary cup burner rotarycupburner

A burner that atomizes and burns fuel through the high-speed rotation of the rotor and the flushing of primary air.