

HJ

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

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**Specifications and test procedures for nonmethane
hydrocarbons continuous emission monitoring system in
stationary sources**

固定污染源废气非甲烷总烃连续监测系统技术要求及检测方法
(English Translation)

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Foreword

This standard is hereby formulated, to implement the "Environmental Protection Law of the People's Republic of China" and "The Air Pollution Prevention Law of the People's Republic of China", protect the ecological environment and human health, regulate the performance and quality of the nonmethane hydrocarbons continuous emission monitoring system in stationary sources, implement monitoring for the emission pollutants from the stationary atmospheric pollution source.

This standard specifies the main technical requirements, test items, test methods for the nonmethane hydrocarbons continuous emission monitoring system in stationary sources.

Appendices A and C of this standard are normative appendixes. Appendix B is an informative appendix.

This standard is issued for the first time.

This standard was formulated by the Department of Ecological Environment Monitoring, the Department of Regulations and Standards of the Ministry of Ecological Environment.

Drafting organization of this standard. China Environmental Monitoring Station.

This standard was approved by the Ministry of Ecological Environment, on December 29, 2018.

This standard will be implemented on July 1, 2019.

This standard is interpreted by the Ministry of Ecological Environment.

Specifications and test procedures for nonmethane
hydrocarbons continuous emission monitoring
system in stationary sources

1 Scope

This standard specifies the composition structure, technical requirements, performance indicators, detection methods of nonmethane hydrocarbons continuous emission monitoring system in stationary sources.

This standard applies to the design, production, testing of nonmethane hydrocarbons continuous emission monitoring system in stationary sources.

2 Normative references

This standard refers to the following documents or their clauses. For undated reference documents, their valid versions are applicable to this standard.

GB 3836.1 Explosive atmospheres - Part 1.Equipment - General requirements

GB/T 4208 Degrees of protection provided by enclosure (IP code)

GB/T 16157 The determination of particulates and sampling methods of gaseous pollutants emitted from exhaust gas of stationary source

HJ 38 Stationary source emission - Determination of total hydrocarbons, methane and nonmethane hydrocarbons - Gas chromatography

HJ 75 Specifications for continuous emissions monitoring of SO₂, NO_x, and particulate matter in the flue gas emitted from stationary sources

HJ 76 Specifications and test procedures for continuous emission monitoring system for SO₂, NO_x and particulate matter in flue gas emitted from

stationary

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1

Nonmethane hydrocarbons (NMHC)

Under the conditions specified in the HJ 38 standard, the sum of other gaseous organic compounds than methane, which respond on the hydrogen flame ionization detector, as calculated in carbon, unless otherwise specified.

3.2

Nonmethane hydrocarbons continuous emission monitoring system
(NMHC-CEMS)

All equipment, which is required to continuously monitor the emission concentration and volume of non-methane hydrocarbons in exhaust gas from stationary sources, as referred to as NMHC-CEMS.

3.3

Analysis cycle time

The time interval, between the two sets of measurement results, which is given when the system is running continuously.

4.1 System composition

The stationary pollution source NMHC-CEMS consists of a non-methane hydrocarbon monitoring unit, a waste gas parameter monitoring unit, a data collection and processing unit, as shown in Figure 1. The system measures the concentration of non-methane hydrocarbons in the exhaust gas AND the exhaust gas parameters (temperature, pressure, flow rate or flow, humidity, etc.).

4.2 System structure

The NMHC-CEMS's system structure mainly includes sample collection and transmission devices, pretreatment equipment, analysis instruments, data collection and transmission equipment, other auxiliary equipment, etc. Depending on the measurement method and principle of the system, the system may consist of all or part of the above structure.

4.2.3 Analytical instruments

The analytical instrument is used to measure and analyze the collected waste gas samples from the pollution source. For specific technical requirements, see 5.4.3.

4.2.4 Data collection and transmission equipment

Data collection and transmission equipment is used to collect, process, store monitoring data. It can transmit monitoring data and equipment working status information, according to the commands from central computer. See 5.4.4 for specific technical requirements.

5.2 Working conditions

NMHC-CEMS shall work normally under the following conditions.

5.3.2 Insulation strength

When the ambient temperature is (15 ~ 35) °C and the relative humidity is ≤ 85%, the system shall last for 1 min, under 1500 V (effective value), 50 Hz sine wave test voltage; there shall be no breakdown or arcing.

5.3.3 The system shall have a leakage protection device and good grounding

measures, to prevent damage to the system, which is caused by lightning strikes.