

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HJ 817-2018

Replacing HJ/T 193-2005 Partial

**Technical specifications for operation and quality control of
ambient air quality automated monitoring system for particulate
matter (PM10 and PM2.5)**

环境空气颗粒物（PM10 和 PM2.5）连续自动监测系统运行和质控技术规范
(English Translation)

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Foreword

Standardize the environment for the implementation of the Environmental Protection Law of the People's Republic of China and the Law of the People's Republic of China the airborne particulate matter (PM10 and PM2.5) continuously monitors the operation and quality control of the system and develops this standard.

This standard specifies the composition, daily operation and maintenance of continuous automatic monitoring system for ambient air particulate matter (PM10 and PM2.5).

Technical requirements such as requirements, quality assurance and quality control, and data validity judgment.

This standard is a revision of the contents of the Technical Specifications for Automatic Monitoring of Ambient Air Quality (HJ/T 193-2005).

This standard was first published in 2005 and this is the first revision. The main contents of the revision are as follows.

-- Increased operational and quality control requirements for continuous automatic

monitoring systems for fine particulate matter (PM_{2.5});

-- Revised the composition and requirements of continuous automatic monitoring system for particulate matter;

-- Revised the daily operation and maintenance requirements of the system, and increased the daily operation, instrument update and parameter adjustment of the system.

Request, remove the requirements for preventive maintenance;

-- Revised the content and requirements for quality assurance and quality control;

-- Revised the content and requirements of the accuracy review;

-- Removed the requirement for data collection frequency and revised the requirements for data validity judgment.

From the date of implementation of this standard, the Technical Specifications for Automatic Monitoring of Ambient Air Quality (HJ/T 193-2005) is related to inhalation.

Particulate matter (PM₁₀) continuous automatic monitoring system operation and quality control content abolished.

The equipment and equipment that have been put into use before the implementation of this standard do not meet the requirements of this standard. When the equipment is updated, Performed in accordance with the requirements of this standard.

Appendix A of this standard is a normative appendix, and Appendix B is an informative appendix.

This standard is formulated by the Environmental Monitoring Department and the Science and Technology Standards Department.

This standard was drafted. China Environmental Monitoring Center, Suzhou Environmental Monitoring Center Station, Jinan Environmental Monitoring Center Station and Guangdong Environmental Monitoring Center.

This standard is approved by the Ministry of Ecology and Environment on August 13, 2018.

This standard has been implemented since September 1, 2018.

This standard is explained by the Ministry of Ecology and Environment.

1 Ambient air particulate matter (PM₁₀ and PM_{2.5}) continuously and automatically monitors system operation and Quality control technical specification

1 Scope of application

This standard specifies the composition, daily operation and maintenance requirements of the continuous automatic monitoring system for ambient air particulate matter (PM₁₀ and

PM2.5).

Technical requirements such as quantity assurance and quality control as well as data validity judgment.

This standard applies to all levels of environmental monitoring stations (centres) and other environmental monitoring agencies (including social environmental monitoring agencies) using continuous automatic Operational management and quality control of monitoring systems for monitoring ambient airborne particulate matter (PM10 and PM2.5).

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

GB 3095 Ambient Air Quality Standard HJ 93 ambient air particulate matter (PM10 and PM2.5) sampler technical requirements and test methods HJ 618 Determination of ambient air PM10 and PM2.5 gravimetric method HJ 655 Environmental Air Particulates (PM10 and PM2.5) Continuous Automatic Monitoring System Installation and Acceptance Specifications

3 Terms and definitions

The following terms and definitions apply to this standard.

Continuous ambient air quality monitoring Refers to the process of continuous sample collection, processing and analysis of ambient air using continuous automatic monitoring instruments.

Particulate matter (particle size less than or equal to 10µm) particulate matter (PM10) Refers to particulate matter in the ambient air with an aerodynamic equivalent diameter of 10 µm or less, also known as inhalable particulate matter.

Particulate matter (particle size less than or equal to 2.5µm) particulate matter (PM2.5) Refers to particulate matter in the ambient air having an aerodynamic equivalent diameter of 2.5 µm or less, also called fine particulate matter.

Particle separate device A device having a function of separating particles of different particle sizes.

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Audit sampler

A manual particle sampler that is carried to the site for comparison of ambient air particulate matter monitoring instruments.

Data quality objectives A qualitative and quantitative description of the data obtained

through the data quality goal planning process, which clarifies the purpose of the study and determines the most appropriate Data collection types and collection conditions to clarify acceptable levels of potential judgment errors.

4 Composition and requirements of continuous automatic monitoring system for ambient air particulate matter

4.1 System composition

The continuous monitoring system for ambient air particulate matter consists of an air quality monitoring substation, a quality assurance laboratory, and a system support laboratory.

4.2.1 Function and composition

Continuous automatic monitoring of ambient air quality and meteorological conditions (including temperature, air pressure, humidity, wind direction, wind speed, etc.), collection, Process and store monitoring data, and periodically transmit monitoring data and device operating status information to the central computer.

The air quality monitoring substation is mainly composed of substation station, sampling device, monitoring instrument, calibration equipment, data acquisition and transmission equipment, and auxiliary equipment.

Equipment and other components.

The monitoring station and surrounding environment should meet the requirements of HJ 655.

4.2.2 Instrument and equipment configuration

The continuous automatic monitoring system for particulate matter consists of sampling head, sampling tube, sampling pump and instrument host, equipped with temperature, humidity and pressure detection.

, wherein the beta ray particle monitoring instrument should include a dynamic heating system (Dynamic heating system) the measuring instrument should include a Filtration membrane dynamic measurement system.

4.3.1 Main functions

Performing value transfer, calibration and performance audits of monitoring instruments and equipment, and calibrating and performance of monitored monitoring instruments and equipment test.