



**State Environmental Protection Standard of the
People's Republic of China
中华人民共和国国家环境保护标准**

HJ 653-2013

**Specifications and Test Procedures for Ambient
Air Quality Continuous Automated Monitoring
System for PM₁₀ and PM_{2.5}**

**环境空气颗粒物（PM₁₀ and PM_{2.5}）连续自动检测系
统技术要求及检测方法**

Issued on July 30, 2013

Implemented on August 1, 2013

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Ministry of Environmental Protection of the People's Republic of China

Announcement

2013 No. 48

To implement the *Environmental Protection Law of People's Republic of China*, protect the environment, protect human health, regulate the monitoring work on air quality, hereby approves the *Technical Specifications and Test Procedures for Ambient Air Particulate Matter (PM_{10} and $PM_{2.5}$) Continuous Automated Monitoring System* and other six criteria as the national environmental standards, and publish them.

Standard name and standard numbers are as follows:

- I. *The Technical Specifications and Test Procedures for Ambient Air Particulate Matter (PM_{10} and $PM_{2.5}$) Continuous Automated Monitoring System* (HJ 653—2013);
- II. *The Technical Specifications and Test Procedures for Ambient Air Gaseous Pollutant (SO_2 , NO_2 , O_3 , and CO) Continuous Automated Monitoring System* (HJ 654—2013);
- III. *The Technical Specifications and Test Procedures for Ambient Air Particulate Matter (PM_{10} and $PM_{2.5}$) Continuous Automated Monitoring System* (HJ 93—2013);
- IV. *Specifications and Test Procedures for Ambient Air Particulate Matter (PM_{10} and $PM_{2.5}$) Continuous Automated Monitoring System* (HJ 655-2013);
- V. *Specifications and Test Procedures for Ambient Air Gaseous Pollutant (SO_2 , NO_2 , O_3 , and CO) Continuous Automated Monitoring System* (HJ 193—2013);
- VI. *The Technical Specifications of Ambient Air Particulate Matter ($PM_{2.5}$) Manual Monitoring Methods (Gravimetric Method)* (HJ 656—2013).

The above criteria have been implemented since August 1, 2013, which is published by the China Environmental Press. This Standards' content can be found at the website of the Ministry of Environmental Protection (bz.mep.gov.cn).

From the date of the implementation of the above criteria, the national environmental standards approved and published by the former State Environmental Protection Administration are abolished; this Standard names and numbers are as follows:

- I. *The Technical Specifications and Test Procedures for PM_{10} Sampler* (HJ/T 93—2003);
- II. *Ambient Air Quality Automatic Monitoring Technical Specification* (HJ/T 193—2005).

Hereby make an announcement.

Ministry of Environmental Protection

July 30, 2013

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Foreword

To implement the *Environmental Protection Law of People's Republic of China*, *Air Pollution Prevention Law of People's Republic of China*, to implement *Ambient Air Quality Standard* (GB 3095-2012), to regulate the performance and quality of the continuous automatic monitoring system on ambient air particulate matter (PM_{10} and $PM_{2.5}$), Formulate this Standard.

This Standard specifies the technical requirements, performance metrics and test methods of the continuous automatic monitoring system (hereinafter referred to as PM_{10} and $PM_{2.5}$ continuous monitoring system) on ambient air particulate matter (PM_{10} and $PM_{2.5}$).

Annex A of this Standard is the normative annex.

This Standard is first issued.

This Standard is organized and formulated by Department of Science & Technology and Standards, Ministry of Environmental Protection of the People's Republic of China.

This Standard is mainly drafted by the following units: China National Environmental Monitoring Center.

This Standard is approved by Ministry of Environmental Protection on July 30 2013.

This Standard is implemented on August 1, 2013.

The Ministry of Environmental Protection of the People's Republic of China is responsible for the interpretation of this Standard.

Specifications and Test Procedures for Ambient Air Quality Continuous Automated Monitoring System for PM₁₀ and PM_{2.5}

1 Scope

This Standard specifies the technical requirements, performance metrics and test methods of the continuous automatic monitoring system on ambient air particulate matter (PM₁₀ and PM_{2.5}).

This Standard is applicable for the design, production and detection of the continuous automatic monitoring system on ambient air particulate matter (PM₁₀ and PM_{2.5}).

2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 3095-2012 Ambient air quality standard

GB/T 17214.1 Industrial-process measurement and control equipment--Operating conditions Part 1: Climatic conditions

HJ 618 Determination of atmospheric particles PM₁₀ and PM_{2.5} in ambient air by gravimetric method

3 Terms and definitions

For the purpose of this standard, the following terms and definitions shall apply.

3.1

Aerodynamic diameter

Refer to the diameter when the sphere with the unit density ($\rho_0=1\text{g/cm}^3$) conducts low Reynolds movement in still air; the final settling velocity reached the same as the actual particle.

3.2

Particle separate device

It means the device which has function of separating for particles of different point



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