

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HJ 2028-2013

General technical specification for electrostatic precipitation engineering (English Translation)

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Ministry of Ecology and Environment

Table of Contents

Foreword
1 Scope of application
2 Normative references
3 Terms and definitions
3.1 Electrostatic precipitator electrostatic precipitator
3.2 Design efficiency design collection efficiency
3.3 Ensure efficiency collection efficiency
3.4 Dust specific resistance dust resistivity
3.5 Specific collection area
3.6 Flue gas tempering ash adjustable
3.7 Standard State Standard State
4 Contaminants and pollution loads
4.1 Contaminants
4.2 Pollution load
5 General requirements
5.1 General provisions
5.2 General layout
6 Process design
6.1 General requirements
6.2 Process
6.3 Pollution (dust) source control
6.4 Flue gas conditioning

Foreword

In order to implement the Law of the People's Republic of China on Environmental Protection and the Law of the People Standardize the construction and operation management of electric dust removal projects, control smoke (powder) dust emissions, improve environmental quality, and promote the electric dust removal industry Technical progress, the development of this standard.

This standard specifies the general technical requirements for the design, installation, commissioning, acceptance and operation and maintenance of electric dust removal engineering.

This standard is a guidance document.

This standard is the first release.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. China Environmental Protection Industry Association, Guodian Environmental Protection Research Institute, Nanjing Guodian Environmental Protection Division Technology Co., Ltd., Zhejiang Feida Environmental Protection Technology Co., Ltd., Anhui Significance Environmental Protection Equipment Co., Ltd., Sinosteel Tiancheng Environmental Technology Co., Ltd., Tianjie Group Co., Ltd., Zhejiang Jiahuan Electronics Co., Ltd., Fujian Longjing Environmental Protection Co., Ltd.

Limited company.

This standard was approved by the Ministry of Environmental Protection on March 29, 2013.

This standard has been implemented since July 1, 2013.

This standard is explained by the Ministry of Environmental Protection.

General technical specifications for electric dust removal engineering

1 Scope of application

This standard specifies the general technical requirements for the design, installation, commissioning, acceptance and operation and maintenance of electric dust removal engineering.

This standard is applicable to the dust-containing gas purification treatment project using a vibrating or rotating brush type cleaning electrostatic precipitator, which can be used as a ring.

Environmental impact assessment, design and construction of environmental protection facilities, environmental protection acceptance and technical basis for operation and management after completion.

The technical requirements set forth in this standard are versatile, and the specific requirements are required to implement the dust removal engineering technical regulations of relevant industries.

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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 4053.1 Fixed steel ladders and platforms - Safety requirements - Part 1 GB 4053.2 Fixed steel ladders and platforms - Safety requirements - Part 2 GB 4053.3 Fixed steel ladders and platforms - Safety requirements - Part 3. Industrial protective railings and steel platforms GB 7251 low-voltage switchgear and control equipment GB 15577 dust explosion safety regulations GB 50007 Building Foundation Design Specification GB 50009 Building Structure Load Specification GB 50010 concrete structure design specification GB 50011 seismic design code for buildings GB 50014 Outdoor Drainage Design Code GB 50015 Building Water Supply and Drainage Design Code GB 50016 Building Design Fire Code GB 50017 steel structure design specification GB 50018 Cold-formed thin-walled steel structure technical specification GB 50019 Heating, Ventilation and Air Conditioning Design Code GB 50029 compressed air station design specification GB 50040 power machine basic design specification GB 50051 chimney design specification GB 50140 Building Fire Extinguisher Configuration Design Specification GB 50187 General Plan for Design of Industrial Enterprises General specification for construction and acceptance of GB 50231 mechanical equipment installation engineering GB 50251 gas pipeline engineering design specification GB/T 700 carbon structural steel Carbon steel hot rolled round bar for GB/T 715 standard parts GB/T 1228 high strength large hex head bolt for steel structure GB/T 1229 high strength large hex nut for steel structure GB/T 1230 high strength washer for steel structure GB/T 1231 High-strength large hexagon bolts, large hex nuts and washers for steel structures GB/T 1591 low alloy high strength structural steel GB/T 3632 steel structure with torsional shear type high strength bolt connection Technical requirements for torsion-shearing high-strength bolts for GB/T 3633 steel structures GB/T 3797 electrical control equipment GB/T 4172 weathering steel for welded structure GB/T 5117 carbon steel electrode GB/T 5118 low alloy steel electrode GB/T 5313 thickness direction performance steel plate GB/T 5780 Hex Head Bolt C Grade GB/T 5782 Hex Head Bolt GB/T 10433 cylindrical head welding nail GB/T 11352 cast carbon steel for general engineering GB/T 13931 electrostatic precipitator performance test method GB/T 16157 Determination of particulate matter in fixed pollution source exhaust gas and sampling method of gaseous pollutants GB/T 16845 Dust Collector Terminology GB/T 50033 Architectural lighting design standard GB/T 50058 Design Specification for Electrical Installations for Explosive and Fire Hazardous Environments GB J16 Building Design Fire Code GB J 87 Industrial Enterprise Noise Control Design Specification GBZ 1 industrial enterprise design hygiene standard GBZ 2 Industrial site harmful factors occupational exposure limit DL 408 Electrical Safety Work Procedures DL/T 461 Coal-fired power plant electric precipitator operation and maintenance guidelines DL/T 514 electrostatic precipitator DL/T 5044 Power Engineering DC System Design Technical Specification DL/T 5047 Power Construction Construction

and Acceptance Technical Specifications Design procedure for thermal insulation paint of DL/T 5072 thermal power plant DL/T 5161.3 Electrical installation engineering quality inspection and assessment procedures D/T 5121 Thermal Power Plant Tobacco Pulverized Coal Pipeline Design Technical Specification High-voltage rectifier power supply for HJ/T 320 electrostatic precipitator HJ/T 321 electrostatic precipitator low voltage control power supply HJ/T 322 Environmental Protection Products Technical Requirements Electrostatic Precipitator HJ/T 397 Fixed Source Exhaust Gas Monitoring Technical Specification JB 2420 outdoor anti-corrosion electrical product conditions JB/T 5906 Electrostatic Precipitator Anode Plate JB/T 5909.1 Electrostatic precipitator with porcelain insulator support porcelain sleeve JB/T 5910 Electrostatic Precipitator Technical requirements for welding parts of JB/T 5911 electrostatic precipitator JB/T 5913 Electrostatic Precipitator Cathode Line JB/T 6407 electrostatic precipitator design, commissioning, operation, maintenance safety technical specifications JB/T 7671 Electrostatic Precipitator Airflow Distribution Simulation Test Method JB/T 8536 electrostatic precipitator mechanical installation technical conditions JB/T 9688 thyristor control high voltage power supply for electric dust removal JB/T 11075 Electrostatic precipitator with sulfur trioxide flue gas quenching and tempering system JB/ZQ 3687 Welding Specifications for Manual Arc Welding SDZ 019 General technical conditions for welding "Deep Provisions on the Design of Architectural Engineering Design Documents" (Building Quality [2003] No. 84) Measures for the Administration of Environmental Protection Acceptance for Completion of Construction Projects (Order No. 13 of the State Environmental Protection Administration)

3 Terms and definitions

The following terms and definitions established by GB/T 16845 apply to this standard.

3.1 Electrostatic precipitator electrostatic precipitator

Refers to the dust collector that uses the high-voltage electric field to adsorb the charged dust and separate the dust from the dust-containing gas.

3.2 Design efficiency design collection efficiency

Refers to the theoretical dust removal efficiency of the precipitator calculated according to the following formula.

$\eta = 1 - e^{-\frac{QA}{Q_0}}$ where. η -dust removal efficiency, %;

Q -dust flow, m³/s;

A - total dust collection area, m²;

v -drive speed, m/s.