

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

HJ 178-2018

Replacing HJ/T 178-2005

General technical specification of circulating fluidized bed flue gas desulfurization (English Translation)

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Foreword

In order to carry out "Law of the People's Republic of China on Environmental Protection", "Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution" and other laws and regulations, prevention and control ring Pollution, improve the quality of the environment, regulate the flue gas circulating fluidized bed flue gas desulfurization project construction and operation management, the development of this standard.

This standard specifies the flue gas circulating fluidized bed flue gas desulfurization project design, construction, acceptance, operation and maintenance of technical requirements.

This standard was first released in 2005, this is the first revision.

The main content of this revision.

- Expand the scope of the applicable industries;
- Perfecting and supplementing the general technical requirements applicable to various industries, eliminating the special technical requirements applicable only to the thermal power industry;
- According to the technical development, the technical contents of flue gas system and

absorption system were mainly adjusted, which supplemented the equipment selection requirements;

- According to the requirements of integration of desulphurization and dust removal, add the content of design selection specification of dust remover;
- Enrich the operation and maintenance of technical content;
- Improve the information appendix.

This standard Ministry of Environmental Protection Science and Technology Standards Division revised.

This standard is mainly drafted by. China Environmental Protection Industry Association, Fujian Long net Environmental Protection Co., Ltd., Wuhan Kaidi Electric Power Co., Ltd. Limited company, Beijing Institute of Labor Protection.

This standard MEP.2018 January 15 approved.

This standard since May 1, 2018 implementation.

This standard is interpreted by the MEP.

General technical specifications for flue gas desulfurization by flue gas circulating fluidized bed method

1 Scope of application

This standard specifies the flue gas circulating fluidized bed flue gas desulfurization project design, construction, acceptance, operation and maintenance of technical requirements.

This standard applies to flue gas circulating fluidized bed flue gas desulfurization project can be used as construction project environmental impact assessment, environmental protection facilities Technical basis for calculation, construction, acceptance and operation management.

The technical requirements proposed by this standard are general and special requirements to implement the relevant technical specifications of the industry.

2 Normative references

This standard references the following documents in the terms. For undated references, the effective version applies to this standard.

GB 150 pressure vessel GB 912 carbon structural steel and low alloy structural steel hot rolled steel sheet and strip GB 2894 safety signs GB 4053 fixed steel ladders and platform safety requirements GB/T 4272 equipment and pipe insulation technology GB 5083 General safety and health design of production equipment GB/T 5750 drinking water health

standards test methods GB/T 6719 bag filter technical requirements GB/T 6920
Determination of water quality - Glass electrode method GB/T 7477 Water quality -
Determination of total calcium and EDTA - EDTA titration method Water quality -
Determination of ammonium - Distillation and titration Water quality - Determination of
chloride - Silver nitrate titration Water quality - Determination of sulfate - Gravimetric
method GB 12348 industrial enterprises boundary environmental noise emission standards
GB/T 12801 production safety and health requirements General GB 18599 general
industrial solid waste storage, disposal site pollution control standards GB/T 19229.2
coal-fired flue gas desulfurization equipment Part 2. coal-fired flue gas dry/semi-dry
desulfurization equipment GB/T 19587 gas adsorption BET method for the determination of
solid material specific surface area GB/T 27869 electric bag composite dust collector GB
50009 Building structural load specifications GB 50010 Design code for concrete structures
GB 50011 Code for seismic design of buildings GB 50013 outdoor water supply design
specifications GB 50014 outdoor drainage design specifications GB 50016 architectural
design code for fire protection GB 50017 steel structure design specifications GB 50019
Heating, ventilation and air conditioning design specifications GB 50029 compressed air
station design specifications GB 50033 architectural lighting design standards GB 50034
industrial lighting design standards GB 50040 Power Machinery Basic Design Specification
GB 50052 for power distribution system design specifications GB 50084 automatic sprinkler
system design specifications GB 50087 Industrial Enterprise Noise Control Design Code
GB 50093 Automatic Instrumentation Engineering Construction and Quality Acceptance
Specification GB 50116 automatic fire alarm system design specifications GB 50187
General design of industrial enterprises Seismic Design Code GB 50191 Structure GB
50222 interior design fire protection specifications GB 50231 Mechanical Equipment
Installation Engineering Construction and Acceptance Common Specifications GB 50254
Installation of electrical installations low voltage electrical construction and acceptance
specifications Specification for Construction and Acceptance of Electrical Lighting Fixtures
for Installation of Electrical Installations GB 50300 construction quality acceptance uniform
standards GB/T 50655 chemical plant steam system design specifications GB 50755 Steel
Construction Project Code Design Code for Roads and Mines Code for Design of
Extinguishing Fire Extinguisher GB J 140 GBZ 1 industrial design health standards GBZ
2.1 Occupational exposure limits for hazardous agents in the workplace - Part 1. Chemical
hazards GBZ 2.2 Occupational exposure limits for hazardous agents in the workplace - Part
2. Physical factors DL/T 323 Dry Flue Gas Desulfurization Lime for Determination of Activity
DL/T 5044 Power Engineering DC system design technical specifications DL/T 5072
thermal power plant insulation paint design specifications DL/T 5121 thermal power plant
smoke coal gas pipeline design technical specifications DL/T 5403 thermal power plant flue
gas desulfurization project to adjust the trial transport and quality acceptance assessment
procedures HJ/T 75 fixed pollution sources flue gas emissions continuous monitoring
technical specifications HJ/T 76 fixed pollution source flue gas emissions continuous
monitoring system technical requirements and testing methods HJ/T 325 Environmental

Protection Products Technical Requirements Bag filter bag frame HJ/T 327 Environmental Protection Products Technical Requirements Bag filter bags HJ 2028 electrostatic precipitator engineering general technical specifications Technical Specification for Operation and Management of HJ 2040 Thermal Power Plant Flue Gas Treatment Facilities JB/T 4735 steel welded pressure vessel JB/T 8470 positive pressure dense phase fly ash pneumatic conveying system JB/T 8532 pulse jet bag filter JB/T 10191 bag filter safety requirements Pulsed jet bag filter with a sub-air box JB/T 11076 desulfurization with a dry dry lime digester JB/T 11646 semi-dry desulfurization equipment dedicated equipment fluidization tank JB/T 12116 desulfurization and denitration with high-pressure reflux water spray gun JC/T 478.1 Building lime test methods - Part 1. Physical test methods JC/T 478.2 Building lime test methods - Part 2. Chemical analysis methods Air transport chutes for the cement industry

3 Terms and definitions

3.1

flue gas circulating fluidized bed desulfurization process circulating fluidised bed flue gas desulphurization Refers to the use of circulating fluidized bed working principle, the absorbent containing material in the absorption tower to form a fluidized bed cycle, complete absorption Agents and flue gas SO₂ and other acid gases (including SO₃, HCl, HF, NO₂, etc.) reaction to achieve purifying flue gas desulfurization process.

3.2 Desulfurization project desulphurization project

Refers to the facilities, equipment, components and system integration required to remove the SO₂ and other sour gases from the flue gas through the absorbent.

3.3 Absorbent

Refers to the chemical reaction to remove SO₂ and other acid gases and other substances, usually calcium-based absorbent.

3.4 Absorber

Refers to the formation of circulating fluidized bed desulfurization project SO₂ and other acid gases and other harmful substances in the reaction device.

3.5 By-product

Refers to the absorbent and the flue gas SO₂ and other acidic gases generated after the reaction of substances.