

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

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**Technical specifications for hydrolysis and acidification reactor
in wastewater treatment**

水解酸化反应器污水处理工程技术规范

(English Translation)

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Foreword

In order to implement the Environmental Protection Law of the People's Republic of China and the Law of the People's Republic of China on the Prevention and Control of Water Pollution, Acidification reactor construction and operation management, prevention and control of environmental pollution, environmental protection and human health, the development of this standard.

This standard specifies the process design, main process equipment and materials for the hydrolysis and acidification reactor wastewater treatment works.

Process control, construction and acceptance, operation and maintenance of technical requirements.

This standard is a guiding standard.

This standard is the first release.

This standard is organized by the Ministry of Environmental Protection Science and Technology Standards Division.

The main drafting unit of this standard. China Environmental Protection Industry Association, Tsinghua University, Beijing Environmental Protection Science Research Institute.

The Environmental Protection Department of this standard approves on November 20, 2015.

This standard has been implemented since January 1, 2016.

This standard is explained by the Ministry of Environmental Protection.

Technical specification for wastewater treatment of hydrolytic acidification reactor

1 Scope of application

This standard specifies the process design, inspection and process control, construction and acceptance, operation and maintenance of the hydrolysis and acidification reactor and other technical requirements.

This standard applies to the use of hydrolytic acidification reactor sewage treatment works, can be used as environmental impact assessment, environmental engineering construction Facilities, environmental protection and acceptance of post-construction and management of the technical basis.

2 Normative reference documents

The contents of this standard refer to the terms of the following documents. For undated references, the latest edition of this document applies standard.

Electrical equipment for explosive gas atmospheres GB 3836 General rules for safety and hygiene of production processes Standard for Hazardous Waste Storage Pollution Control Standard for Pollution Control of Storage and Disposal Site for General Industrial Solid Waste Specification for Seismic Design of Buildings GB 50011 Code for design of outdoor drainage Code for design of building water supply and drainage Code for fire protection of building design GB 50016 Code for design of heating, ventilation and air conditioning GB 50019 Code for design of building floor GB 50037 Code for design of corrosion protection for industrial buildings GB 50046 Code for design of power distribution system for GB 50052 Code for design of lightning protection for buildings GB 50057 Code for structural design of water supply and drainage works of GB 50069 Technical code for waterproofing of underground engineering GB 50108 Code for construction and acceptance of water supply and drainage structures GB 50141 Code for construction and acceptance of concrete structures GB 50204 Code for acceptance of construction quality of steel structure engineering GB 50205 Code for construction and acceptance of building anti - corrosion engineering GB 50212 Code for fire protection in interior decoration design of buildings GB 50222 General specification for construction and acceptance of mechanical equipment installation works GB 50231 Code for construction and acceptance of water supply and sewerage in GB 50268 Specification for Construction and Acceptance of Compressor, Fan, Pump Installation Standard for Designing Hygienic Standards for Industrial Enterprises Occupational exposure limits for workplace hazards Standard for Examination Method of Municipal Wastewater Quality Technical Code for Operation, Maintenance and Safety of Municipal Wastewater Treatment Plant Technical specification for preservation and management of water quality samples Technical specification for sewage treatment engineering of HJ .2014 biological filter Technical specification for surface water and wastewater monitoring Technical requirements for environmental protection products - Belt press filters for sludge dewatering HJ/T 245 Environmental protection products - Technical

requirements - Suspension packing Technical requirements for environmental protection products for HJ/T 250 Rotary fine grids Technical requirements for environmental protection products HJ/T 283 Environmental protection products Technical requirements Van filter press and plate and frame filter press HJ/T 335 environmental protection products technical requirements sludge concentration belt dehydration machine HJ/T 336 Environmental protection products Technical requirements Diving sewage pump Technical requirements for environmental protection products - Dosing devices for water treatment "Construction project (project) completion and acceptance method" (construction [1990] 1215) Measures for the Administration of Acceptance of Environmental Protection for Completion of Construction Projects (State Environmental Protection Administration Decree No. 13)

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Hydrolysis and acidification reactor

Refers to the anaerobic biological reaction control in the hydrolysis and acidification stage, the use of anaerobic or facultative bacteria in the hydrolysis and acidification stage (Including carbohydrates, fats and lipids, etc.) in the presence of suspended organic solids and biodegradable organisms in the effluent, Hydrolyzed into dissolved organic matter and biodegradable small molecules, small molecules of organic matter and then under the action of acid bacteria into a swing Fatty acid wastewater treatment plant.

Up-flow hydrolysis acidification reactor in a single reactor, the effluent from the bottom of the reactor is uniformly passed from the bottom of the reactor through the sludge layer (average sludge Concentration of 15g/L ~ 25g/L) rose to the top of the reactor to achieve the process of hydrolysis and acidification, removal of suspended solids and other functions of hydrolysis Acidification reactor.

3.3 Hybrid hydrolysis acidification reactor mixed hydrolysis acidification reactor

A hydrolytic acidification reactor is added to the sludge bed of the upflow hydrolytic acidification reactor.

3.4 Complete mixed hydrolysis acidification reactor completely mixed hydrolysis acid

Reactor

The reactor is equipped with a stirring device to completely separate the sewage from the sludge to achieve the hydrolysis and acidification of the reactor, generally followed by precipitation the pool separates the sewage, sludge and returns the sludge to the hydrolysis acidification reactor.

4.1 Design water

4.1.1

Design water should be determined based on the actual measured effluent flow. The test method shall comply with the requirements of HJ/T 91.

4.1.2

urban sewage can not obtain the measured data, the design of water can be based on local water quota, combined with local drainage facilities water the rate of flat drainage is determined by 80% to 90% of the local water use quota.

4.1.3

industrial wastewater can not obtain the measured data, the design of water can refer to the current industrial water consumption of the relevant provisions of the conversion to determine, or according to the same industry with the scale of the existing drainage data to determine the actual ratio.

4.1.4

Industrial Park Concentrated sewage treatment project design flow can refer to the urban sewage design flow to determine the implementation of the method.

4.1.5

industrial wastewater and domestic sewage mixed treatment, the factory or industrial park within the amount of sewage, bathing sewage OK, should comply with the relevant provisions of GB 50015.

4.1.6

In the shunt system, the flow rate of the hydrolytic acidification reactor shall be determined according to the maximum daily average;

Drainage system, the hydrolysis of acidification reactor should be designed according to the flow of sewage flow, and with the confluence of sewage design flow check, check the sink Lake time should not be less than 30min. Process set in the adjustment pool and the residence time is greater than 8h, hydrolytic acidification reactor design flow can be According to the average daily average.

4.1.7

Hydrolysis Acidification Reactor Before and after the water pump, piping and other water supply facilities designed by split system, combined system, respectively, by the maximum daily average and the highest day when the maximum amount of sewage to determine.

4.1.8

In areas where the groundwater level is high, the amount of groundwater should be