

HJ

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Film biological wastewater treatment engineering and technical specifications (English Translation)

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Foreword

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, improve environmental quality and regulations.

This standard is formulated for the application of the Fan Membrane Biosystem in wastewater treatment engineering.

This standard specifies the process design, main process equipment, testing and control, construction and acceptance of the membrane biological wastewater treatment project.

Technical requirements for operation and maintenance.

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

This standard was drafted. China Environmental Protection Industry Association (Water Pollution Control Committee), Tianjin Environmental Protection Research Institute, Jiang Xijindala Environmental Research and Development Center Co., Ltd., Beijing Bishuiyuan Technology Co., Ltd., Huizhou Xiongyue Baohuan Technology Co., Ltd., Hangzhou State Mingqing Environmental Protection Technology Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on October 24, 2011.

This standard has been implemented since January 1, 2012.

This standard is explained by the Ministry of Environmental Protection.

Membrane biological wastewater treatment engineering technical specification

1 Scope of application

This standard specifies the process design, main process equipment and materials, testing and control, construction and inspection of membrane biological wastewater treatment engineering.

Technical requirements for collection, operation and maintenance.

This standard applies to urban sewage using membrane biological method and industrial wastewater treatment and reuse project with biodegradability;

The technical basis for impact assessment, design, construction, environmental protection acceptance and facility operation management.

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 3096 Acoustic Environmental Quality Standard GB 5226.1 Mechanical safety machinery and electrical equipment - Part 1. General technical conditions GB 12348 Environmental noise emission standards for industrial enterprises General rules for safety and health requirements of GB 12801 production process GB 18599 General industrial solid waste storage and disposal site pollution control standards GB 18918 Pollutant discharge standard for urban sewage treatment plants GB 50014 Outdoor Drainage Design

Code GB 50015 Building Water Supply and Drainage Design Code GB 50016 Building Design Fire Code GB 50040 power machine basic design specification GB 50053 10kV and below substation design specifications GB 50187 General Plan for Design of Industrial Enterprises GB 50204 Concrete Structure Engineering Construction Quality Acceptance Specification General specification for construction and acceptance of GB 50231 mechanical equipment installation engineering GB 50235 Industrial metal pipeline engineering construction and acceptance specifications GB 50268 Water supply and drainage pipeline engineering construction and acceptance specifications GB 50334 Urban Wastewater Treatment Plant Engineering Quality Acceptance Specification GB 50352 General rules for civil building design GB J 87 Industrial Enterprise Noise Control Design Specification GB J 141 Code for construction and acceptance of water supply and drainage structures GB/T 3797 Electronic Control Equipment Part II. Electronic Control Equipment with Electronic Devices GB/T 12469 Welding quality assurance steel fusion welding head requirements and defect classification GB/T.20103 Membrane Separation Technology Terminology GBZ 1 industrial enterprise design hygiene standard GBZ 2 Industrial site chemical harmful factors occupational exposure limit CJ/T 51 Standard for urban sewage quality inspection methods CJJ 60 Urban Wastewater Treatment Plant Operation, Maintenance and Safety Technical Regulations HG 20520 FRP/PVC (PRP/PVC) composite pipe design regulations HJ/T 91 Surface Water and Wastewater Monitoring Technical Specifications HJ/T 260 Environmental Protection Product Technical Requirements Blasting Submersible Aerator HJ/T 263 Environmental Protection Product Technical Requirements Jet Aerator HJ/T 353 Water Pollution Source Online Monitoring System Installation Technical Specification (Trial) HJ/T 354 Water Pollution Source Online Monitoring System Acceptance Technical Specification (Trial) Technical Specifications for Operation and Assessment of HJ/T 355 Water Pollution Source Online Monitoring System (Trial) Administrative Measures for Environmental Protection Acceptance of Construction Project Completion (State Environmental Protection Administration, 2001) Construction Engineering Quality Management Regulations "Measures for Completion and Acceptance of Construction Projects (Engineering)"

3 Terms and definitions

The following terms and definitions defined in GB/T.20103 apply to this standard.

3.1 Membrane biological process

Refers to the combination of biological reaction and membrane separation, using membrane as separation medium instead of conventional gravity sedimentation to obtain water, and can change the reverse A wastewater treatment method that should be processed and improved in reaction efficiency, referred to as the MBR method.

3.2 Membrane unit membrane unit

Refers to a basic water treatment unit assembled from a membrane module, a gas supply device, a water collection device, a frame, etc., in a membrane biological wastewater treatment project.

A membrane device that performs solid-liquid separation.

3.3 Immersed membrane biological treatment system

The membrane module is immersed in the biological reaction tank, the pollutants are biochemically reacted in the biological reaction tank, and the membrane is used for solid-liquid separation equipment.

Or system. Negative pressure water can be used, or hydrostatic water can be used to produce water. Referred to as S-MBR.

3.4 External membrane biological treatment system

The membrane module and the bioreactor are arranged separately, and the activated sludge mixture in the bioreactor is pumped into the membrane assembly for solid-liquid separation.

Equipment or system. The produced water is discharged or treated in depth, and the concentrated muddy water mixture is returned to the circulating concentration tank or the biological reaction tank to form a cycle. simple Called R-MBR.

3.5 Ultra-fine screen Ultra-fine screen

Refers to a grid with a grid hole diameter or a gate gap of less than 2 mm.

3.6 Membrane biological process tank Membrane biological process tank

A structure for installing a membrane assembly and simultaneously performing sewage biological treatment and membrane separation.

3.7 Off-line cleaning (recovery chemical cleaning)

Refers to the process of removing the membrane organizer from the membrane pool, immersing it in a chemical solution for cleaning, and removing membrane contaminants.

3.8 On-off ratio than On-off ratio the ratio of the on time to the stop time in one operating cycle of the finger set.