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GB/T 46604-2025

Organic flat membrane unit for membrane bioreactor

膜生物反应器有机平板膜组器

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Separation Membranes (SAC/TC382). This document was drafted by: Tongji University, Anhui Zhongji Energy Conservation Guozhen Intelligent Equipment Co., Ltd., Walton Technology Co., Ltd., and Hangmembrane Technology. Development Group Co., Ltd., Sanda Membrane Technology (Xiamen) Co., Ltd., Shandong Zhaojin Membrane Technology Co., Ltd., Jiangsu Peier Membrane Industry Co., Ltd. The company, Chengdu Mefort Membrane Environmental Protection Technology Co., Ltd., Beijing OriginWater Membrane Technology Co., Ltd., Shanghai Kaixin Separation Technology Co., Ltd. Cangzhou Tianjin University of Technology Research Institute, Ordos Yongsheng Water Treatment Co., Ltd., Jiangsu Yifengpan Environmental Protection Technology Co., Ltd., Guangdong Wen Yang Environmental Technology Co., Ltd., Anhui Shunyu Water Co., Ltd., Suzhou Zhanqing Environmental Protection Technology Co., Ltd., and Jinke Environmental Protection Co., Ltd. Company, Inner Mongolia Shengqing Technology Co., Ltd., Shanghai Zizheng Environmental Protection Technology Co., Ltd., Jiangxi Aikedao Environmental Technology Development Co., Ltd., and Laitelai De (Shanghai) Technology Co., Ltd., Tsinghua Guohua Environmental Group Co., Ltd., Haitian Water Group Co., Ltd., China Three Gorges Corporation Limited Liability Company, Shenzhen Shenshui Water Affairs Consulting Co., Ltd., China Railway Construction Group Co., Ltd., Shenzhen Jindongyang Environmental Technology Co., Ltd. Shandong Deshi Environmental Protection Technology Co., Ltd., Beijing Yinhe Xinyuan Technology Co., Ltd., Guangdong Weiteya Environmental Technology Co., Ltd., Sichuan Sida Energy Environmental Protection Technology Co., Ltd., Henan Licheng Environmental Protection Technology Co., Ltd., Ningbo Bicheng Ecological Technology Co., Ltd., Wanchuang Environmental Protection Co., Ltd. China Water Resources and Hydropower Engineering Co., Ltd., Yuanda Health Technology (Tianjin) Co., Ltd., and Dongyang Hanchen Membrane Technology Co., Ltd. The main drafters of this

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1 Scope

GB/T 46604-2025 is the Chinese national standard covering the flat sheet membrane cassette in an MBR - the pore size and the flux, the strength of the sheet and its bonding to the plate, the fouling and the recovery of flux after cleaning, and the aeration below it that keeps the surface scoured. First edition, in force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document specifies the model, naming, composition, and requirements of organic flat-plate membrane modules (hereinafter referred to as "organic flat-plate membrane modules") for membrane bioreactors. Requirements, test methods, inspection rules and marking, packaging, transportation and storage. This document applies to the production, research, use, and management of organic flat-plate membrane modules for membrane bioreactors.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 191 Pictorial Symbols for Packaging and Storage

GB/T 985.1 Recommended bevels for gas welding, shielded metal arc welding, gas shielded welding and high energy beam welding

GB/T 9969 General Rules for Instructions for Use of Industrial Products HY/T 252-2018 Submersible flat sheet membrane elements for water treatment

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Membrane bioreactor (MBR) Equipment or systems that use membranes as carriers to

combine biological reactions and solid-liquid separation in order to improve the efficiency of reaction processes. [Source: GB/T 20103-2006, 6.3.3, with modifications]

3.2 A membrane separation unit consisting of an organic flat sheet membrane, a flow channel spacer, and a membrane support with a suction outlet. [Source: HY/T 252-2018, 3.5, with modifications]

3.3 Membrane unit A water treatment unit that uses membranes for solid-liquid separation, assembled from several membrane elements, aeration devices, water collection pipelines, frames, and other components. [Source: GB/T 33898-2017, 3.6, with modifications]

3.4 Under specified operating conditions, the amount of product water produced by the membrane module per unit time. [Source: GB/T 20103-2006, 2.2.10, with modifications]