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

GB/T 32361-2015

**Test methods for the pore size properties of membrane filters -
Bubble point and mean flow pore test**

分离膜孔径测试方法 泡点和平均流量法

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard by the National Standardization Technical Committee membrane (SAC/TC382) and focal points. This standard was drafted. Tianjin Motian Membrane Technology Co., Ltd., Suzhou liters of water purification Technology Co., Ltd., Shandong Zhaojin film days limited Ltd., Beijing Water Technology Co., Ltd., Suzhou, China Membrane Material Technology Co., Limited Tianjin-source Environmental Technology The company, Shanghai Yiming Filtration Technology Co., Ltd., Jiang Su Jiuwu high-tech Co., Ltd., Tianjin Motian Membrane Engineering Technology Co., Ltd. The main drafters of this standard. Liu Jianli, Hu Xiaoyu, Tang Xiaoshan, Fan Yun double, Chen Qing, Xu Ya, Wang Yue translation, Wang Xinyan, Guan Jing, Li Tianyu, Qiu Guangming, Pan Fusheng, Zhugao Xiong, Yang Feng, Wang Xin, Xing Weihong, Peng Wenbo. Membrane pore size test methods Bubble point and mean flow method

1 Scope

China's national test method for the maximum pore size and pore size distribution of separation membranes, by the bubble point and mean flow methods. It specifies those methods and applies to membranes whose maximum pore size lies between 0.1 and 15.0 micrometres. The pore size of a filtration membrane is the property that determines what it removes, and it is unusually difficult to measure. The pores are not circular holes of a single

size; they are a tortuous, interconnected network through a polymer or ceramic structure, and what matters to a user is not the average size of that network but the size of its largest continuous path - because the largest path is what a particle gets through. The bubble point method measures exactly that, and it does so by a physical principle rather than by imaging. The membrane is wetted with a liquid of known surface tension, which fills every pore by capillarity, and gas pressure is then applied to one side. The pressure needed to push the liquid out of a pore is inversely proportional to the pore's diameter, so the largest pore empties first and the first bubble appears at a pressure that corresponds to it. Continuing to raise the pressure empties progressively smaller pores, and the flow through the membrane at each pressure, compared with the flow through the same membrane dry, gives the distribution. The mean flow pore is defined as the size at which half the flow passes, which is the single figure most often quoted for a membrane. The method measures only pores that go all the way through and are therefore capable of passing anything. Issued on 31 December 2015 and in force since 1 May 2016.

This standard specifies the maximum separation membrane pore size and pore distribution of test methods

--- bubble point and mean flow method. This standard applies to the test at the maximum aperture of the membrane pore size of $0.1\mu\text{m} \sim 15.0\mu\text{m}$ and pore distribution.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document. Laboratory use specifications and test methods GB/T 6682 Analysis

GB/T 20103-2006 membrane separation technology terms

3 Terms and Definitions

GB/T 20103-2006 define the following terms and definitions apply to this document. For ease of use, repeat the following list GB/T 20103-2006 some terms and definitions.

3.1 Bubble point pressure bubblepointpressure The first bubbles appear and guide the critical pressure continuously during the bubble.

3.2 Maximum aperture maximumporesize With the largest pore membrane equivalent circular diameter of the capillary. [GB/T 20103-2006, the definition 5.1.5]

3.3 Aperture porediameter The nominal diameter of the membrane pores. [GB/T 20103-2006, the definition 2.1.31]

3.4 The average pore diameter meanporesize The membrane pore size average. NOTE. rewrite GB/T 20103-2006, the definition of 5.1.6.

3.5 Pore \u200b\u200bdistribution poredistribution By specifying the pore size range of gas flow through the percentage of all the gas flow holes.

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