

Membrane Treatment Technology

～ Guidelines and General Evaluation ～

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In plants applying conventional sewerage treatment methods, sedimentation tanks or filter basins provide a solid-liquid separation function in order to remove suspended substances from wastewater, but in recent years, the membrane separation activated sludge method (MBR) which applies membrane to replace this function has attracted attention. Applying MBR eliminates the need for a sedimentation tank or filter basin, reducing the land area requirements, and can also improve treated water quality and simplify system maintenance. Until now, it has been introduced mainly in small scale wastewater treatment plants, but research and development work is now being performed in order that in the future it can be applied to the reconstruction and renewal of deteriorated medium and large-scale wastewater treatment plants and to the enhancement of treatment functions.

In May, 2009, the Ministry of Land, Infrastructure, Transport and Tourism (MLITT) enacted the Guideline to the Introduction of Membrane Treatment Technology to Sewerage Systems (First Edition) to summarize basic

information concerning present membrane treatment technologies and the significance of their introduction to sewerage systems, plus items to be studied and precautions followed to introduce MBR to a new or existing treatment plant, in order to popularize and expand the use of membrane treatment technologies. The MLITT is now conducting the study, Japanese Version Next Generation MBR Technology Development Project (A-JUMP), in order to enact the Second Edition of the Guideline with more complete technical elements in addition to achievements of MBR proving projects at actual facilities including its application to medium and large scale wastewater treatment plants accompanied by the most up-to-date knowledge from both inside and outside of Japan. The ministry is now evaluating treated wastewater quality based on results from MBR facilities now in operation (referred to as, “general evaluations”) in order to position MBR as a standard wastewater treatment technology under the Enforcement Order of the Sewerage Law.

<http://www.mlit.go.jp/common/000046580.pdf>
Guideline (First Edition) MLITT website