STERAPORE™ 5000 Series

HOLLOW FIBER MEMBRANE MODULE STERAPORE

Water recycling plant in China

CASE 01

Location
China

Furnished by
Beijing Origin Water Technology Ltd.

Capacity
45,000m³/d

Application
Domestic Sewage

Operation started
2006

Product
STERAPORE™ 5000

Challenge

As water shortage in urban areas in China is becoming a serious problem due to growing population in such areas, effective use of treated water is needed as a countermeasure to solve this problem.

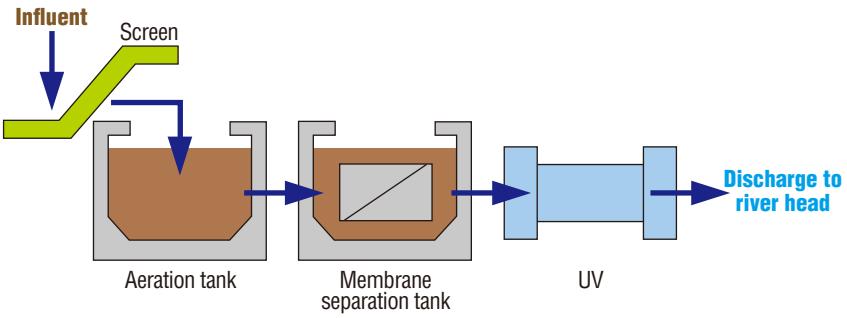
Solution

The purpose of this treatment system is reuse of the treated water, allowing the treated water to be discharged into the upstream of the dam. To this end, MBR that can cut off SS almost 100% to obtain excellent water quality has been used.

Benefits

The sewage treated water by SBR(Sequencing Batch Reactor) is treated by MBR(Membrane Bio Reactor) and then being discharged into the dam serving as a water supply resource.

Process flow diagram



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HOLLOW FIBER MEMBRANE MODULE STERAPORE

Sewage treatment plant in Korea

CASE 02

Location
Korea

Furnished by
Hyundai Engineering Co., Ltd.

Capacity
30,000m³/d

Application
Domestic Sewage

Operation started
2008

Product
STERAPORE™ 5000

Challenge

This plant is located near Seoul, a growing megacity with a population of over 10 million, and its treatment capacity needs to be increased from 150,000 to 180,000m³/day; however, there is not enough land space.

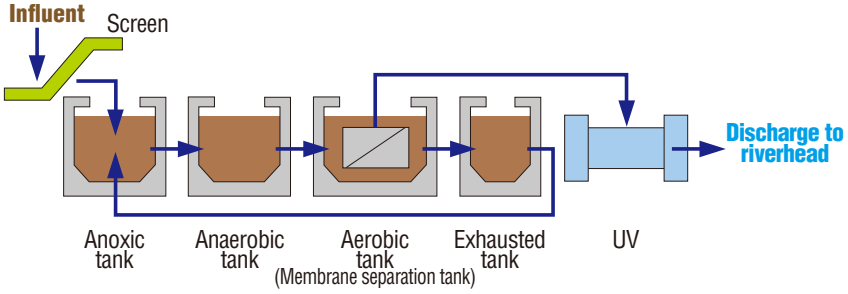
Solution

A significant land-saving is a critical factor for this project. Membrane Bio-Reactor (MBR) can reduce about 60% land space compared with conventional activated sludge process because MBR can eliminate a secondary clarifier.

Benefits

MBR makes it possible to utilize the limited land. Also, the MBR treated water can be discharged to riverhead for improvement in the quality of river water.

Process flow diagram



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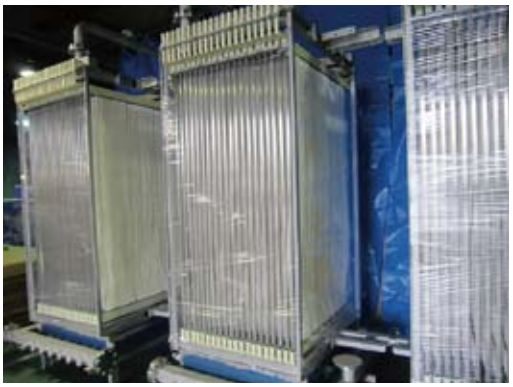
Do more with less upgrade of existing MBR

CASE 04



Location
Japan

Furnished by
Atakadaiki Engineering Co., Ltd.

Designed Capacity
420m³/d

Application
Domestic Sewage

Year Operation Started
2011

Product
STERAPORE™ 5000

Challenge

The initially installed MBR system equipped with a flat-sheet membrane was operated at a water flux rate higher than normal to process the influent more than originally planned. This situation brought an unstable MBR system operation such as frequent chemical cleanings and membrane replacements in a shorter period than expected. Therefore, a retrofit of this MBR system with the minimum CAPEX to realize a stable operation and minimize OPEX was highly anticipated.

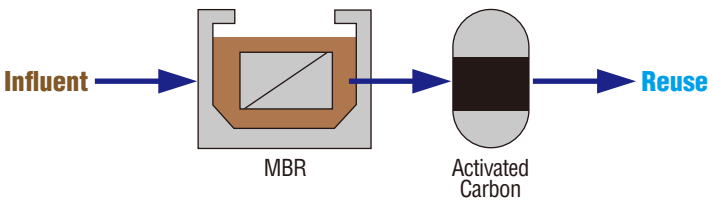
Solution

Replace the flat-sheet membrane module with the STERAPORE™ hollow-fiber membrane module to increase the membrane surface area per footprint to secure a sufficient influent treatment capacity without a tank and blower expansion

Benefits

Through the membrane replacement, the MBR system has gained more capacity under operation at an appropriate water flux rate accompanied by the following cost saving:
CAPEX: No membrane tank and blower capacity expansion
OPEX: Less membrane maintenance and replacement

Process flow diagram



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