

# Water, Wastewater Treatment and Water Reuse Using Membrane

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## **Descriptions of Research Topics**

- Water treatment using membrane (MF, UF, NF, RO)
- Wastewater treatment (sewage, facility wastewater)
- Water reuse using membrane (UF/RO)
- Membrane distillation
- Membrane degassing
- Membrane process and fouling control

#### Applications:

- Water and wastewater treatment
- Water reuse (from WWTP to industry)
- Energy efficiency of membrane process
- Membrane process optimization

## **Water Treatment Business**

**R&D** Institute

#### **Water Treatment**





- Municipal Water
- Industrial process water

### Wastewater Treatment





- Plant wastewater
- Industrial wastewater
- Sewage

#### Reuse





- Water Reuse
  - MBR
  - UF+RO Process
- Tertiary treatment
- Zero-discharge

#### **Intake Screen**

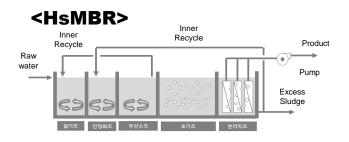


- Sea water intake screen system
  - Travelling Band
- Drum
- Trash rake machine

Research Fields 1 water and wastewater treatment 2 water reuse

Keywords Membrane, Water reuse, Energy efficiency, process optimization, fouling
control, Membrane process, Distillation, Membrane degassing

## 1. MBR using submerged membrane for wastewater treatment







<Yongin-RESPIA>

<Busan-Sooyoung>





<Busan-Southern>

<Hanam>

## 2. Advanced water treatment by NF and Package system

- MF and NF treated water blending for reducing hardness and harmful substances
- Recycling of brine for maximizing recovery
- Package system for drinking water of decentralized region





<Samcheok-NF>





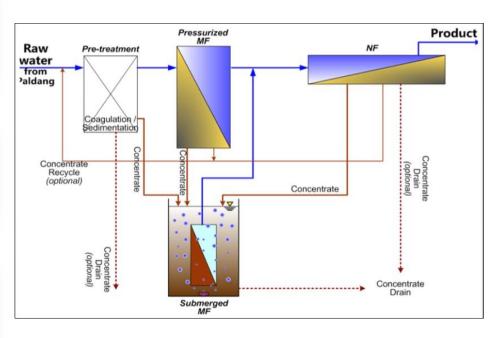
<Cambodia Package>

<Ghana Package>









# 3. Water Reuse Business

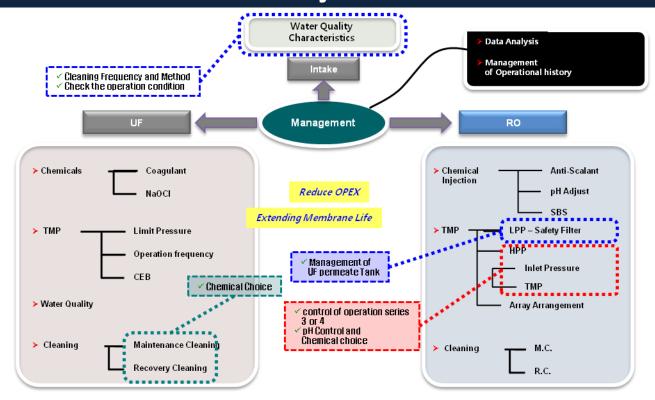
- UF/RO process for sewage treatment plant effluent
- Supply of treated water by UF and RO to industrial and industrial complex
- Business development with private investment project (BOT, BTO, BOOT
- Private investment project and reuse facility supply busines

C V UFAU	RO益비	(Recovery 75%)
-	-l	
21)		
	게 고압 평프 RO농축수	
∆ UE	농축수	RO처리수조
UF 농중수	RO 높충소	농축폐수
500m³/일	2,500m <sup>3</sup> /일	
	UF告卷个조	
		〈하수처리장〉

Facility	Gajwa Reuse Center	Pocheon Reuse Center
Location	Incheon	Pocheon
Capacity	7,500 T/D	22,000 T/D
Supply to	D-steel manufacturing	Jangja Industrial Park
Duration	<b>15year</b> + α	20year



## 4. Membrane Process Efficiency



# 5. Membrane Degassing

