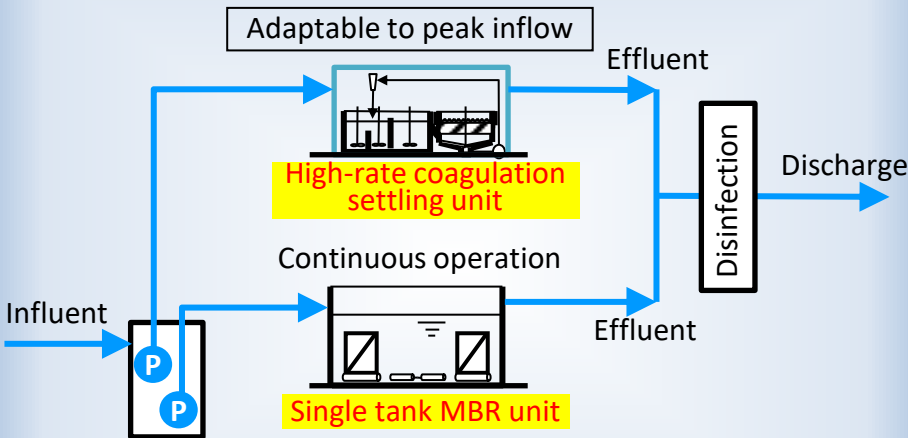


Temporary Wastewater Treatment Unit Using Single Tank MBR and High-rate Coagulation Settling System

Portable wastewater treatment unit for temporary treatment, which uses single tank MBR and/or high-rate coagulation settling (HS) unit made with steel

- ✓ Treatment process is selectable depending on target effluent quality, treatment quantity, etc.
- ✓ Simplified system and reduced treatment time enable space-saving, transport with trailers, and easy installation

〈Treatment Flow Chart〉



- ☆ Continuously run single tank MBR unit that has a good effluent quality
- ☆ Concurrently use high-rate coagulation settling unit for inflow fluctuation

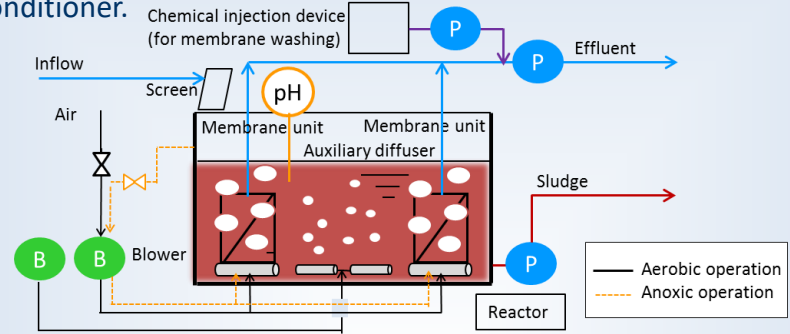


Single tank MBR unit

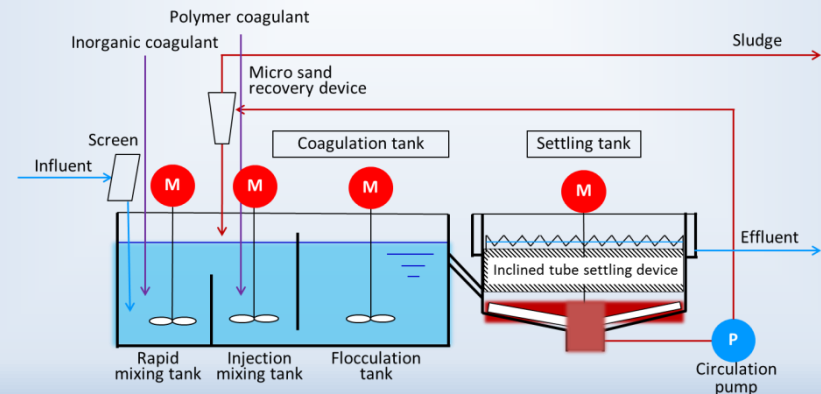


High-rate coagulation settling unit

〈Single tank MBR unit〉 Maximum daily treatment capacity is 300m³: Immersion type single tank MBR can switch aerobic/anoxic operation depending on pH inside a tank and recover alkalinity with no pH conditioner.



〈High-rate coagulation settling unit〉 Maximum hourly treatment capacity is 500m³. High-rate coagulation settling unit using micro sand simplifies O&M by coagulant (inorganic + polymer) addition with fixed quantity and adoption of inclined tube settling device.



Temporary Wastewater Treatment Unit Using Single Tank MBR and High-rate Coagulation Settling System

〈Scope of Application〉

- ✓ **Applicable to a temporary treatment in the period of retrofitting work of small scale WWTPs**
*Including use in the time of disaster
- ✓ **Treatment capacity : Approx. 1200m³/day or less (as a temporary capacity)***Rise in treatment capacity is possible by increase in the number of units. The case that needs more capacity should be considered separately
- ✓ **Effluent quality: No requirement of design effluent quality about nitrogen and phosphorus**
- ✓ **Water temperature : 15°C and over** * When water temperature was below 15°C, filterability might decline. Treatment capacity per MBR unit should be considered individually
- ✓ **Influent quality: Should be common sewerage including domestic wastewater** * When influent is out of the scope such as including much industrial sewerage, treatment capacity per unit or assumed treatment quality should be considered separately.

〈Introduction Effects〉

- ◇ For temporary treatment
 - ✓ Secure treatment capability and effluent quality during retrofitting
 - ✓ Avoid an extension of lines/tanks for retrofitting
 - ◇ As temporary facilities for technology adoption
 - ✓ Reduction of construction work period
 - ✓ Require less area for temporary treatment
 - ✓ Reduce costs for temporary treatment
- * More competitive for the case of small site for installation

〈Image of unit combination〉

	Temporary treatment capacity		
	300m ³ /day	600m ³ /day	900m ³ /day
Small inflow fluctuation	MBR	MBR	MBR
		MBR	MBR
			MBR
Large inflow fluctuation	HS	HS	HS
	MBR	MBR	MBR
		MBR	MBR
			MBR