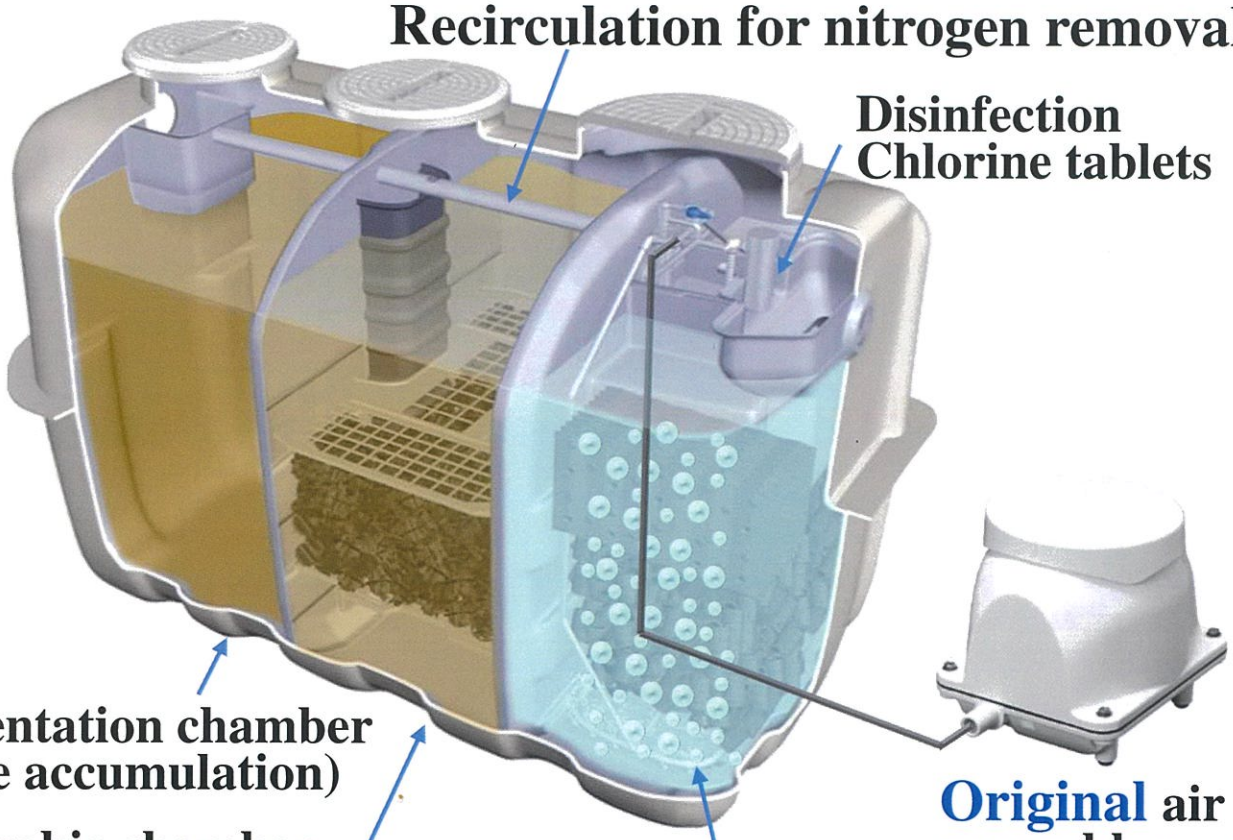
Onsite Wastewater Treatment System

FujiClean

Toward Clean Water...

4-1-4, Imaike, Chikusa, Nagoya, Aichi, JAPAN

Basic treatment process

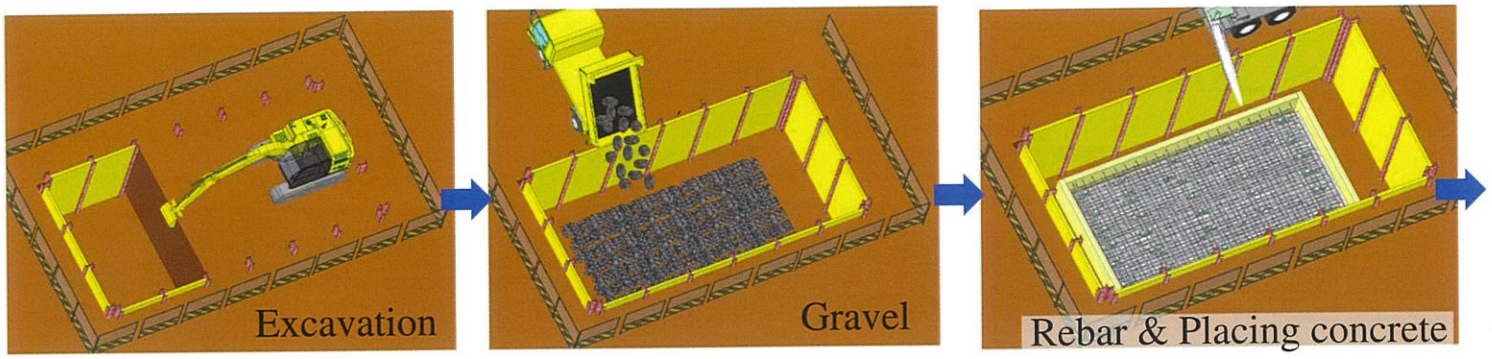


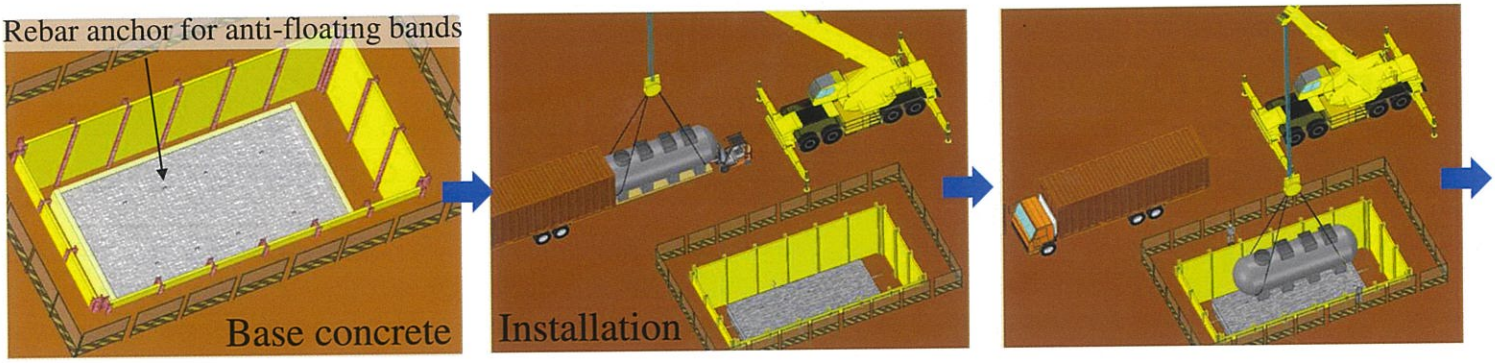
Video for the treatment process

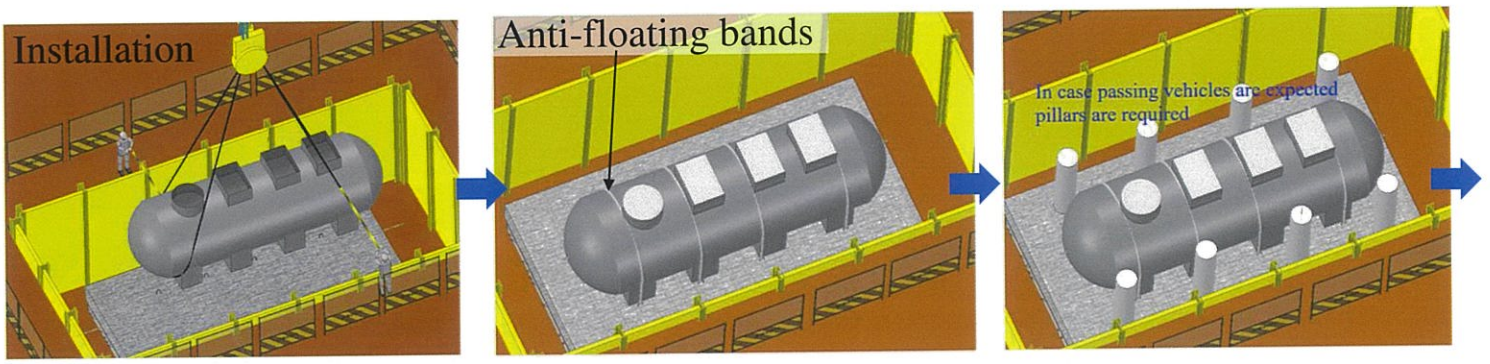
Tubular type
Commercial

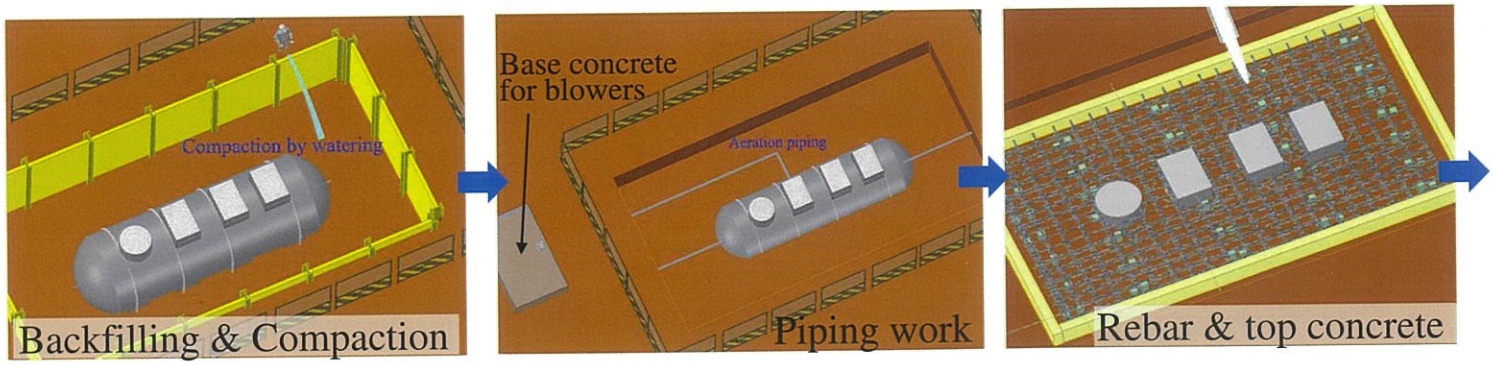
Capsule type
Residential - Commercial

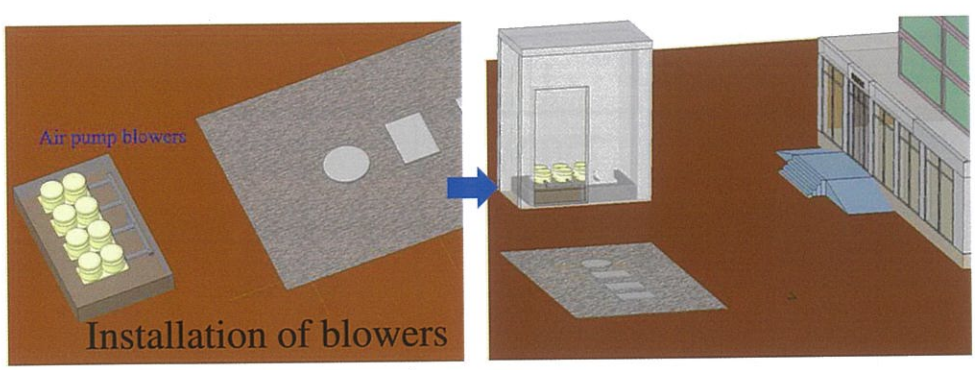
Quick to install





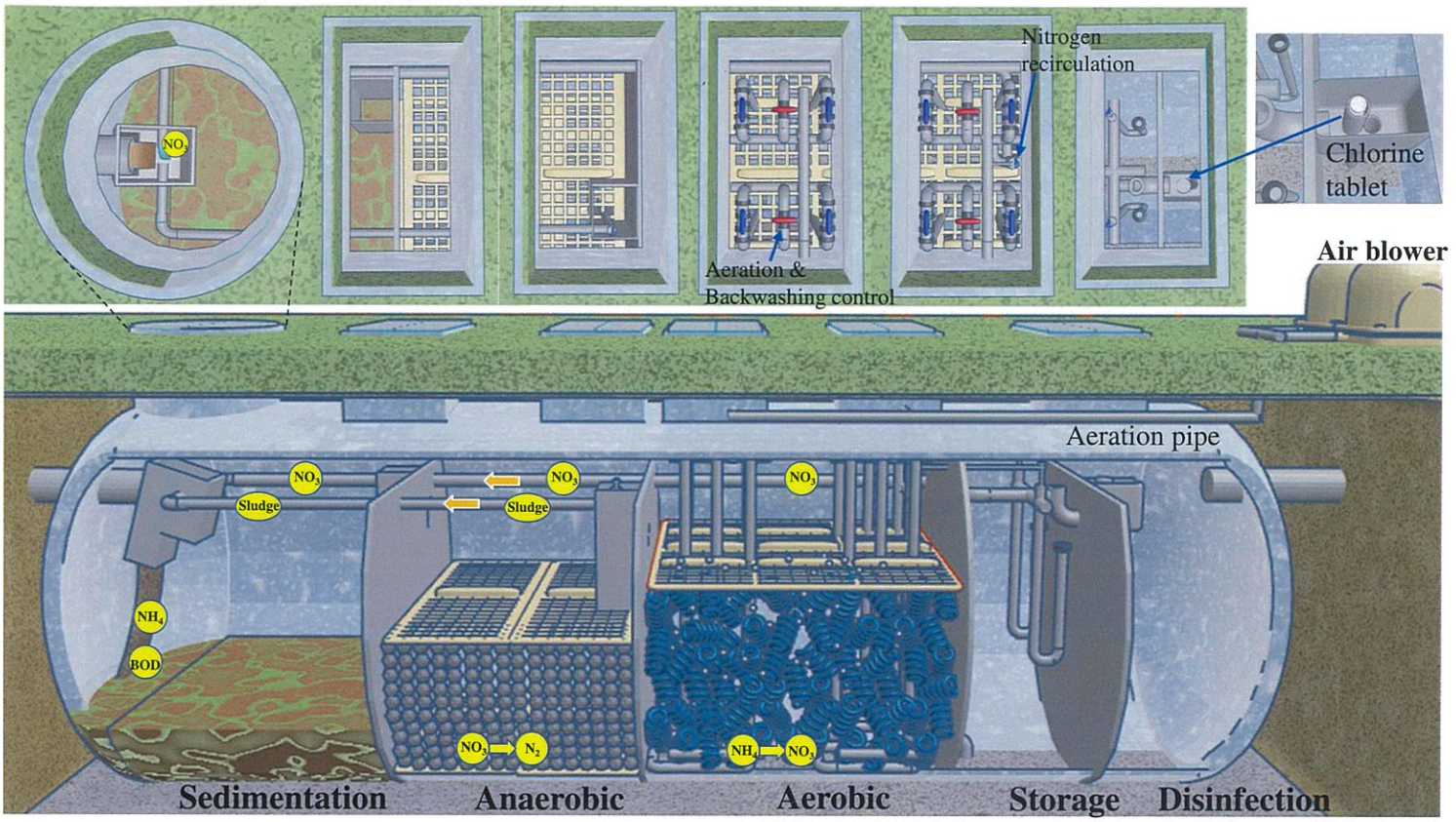






Easy to maintain

Sustainable system with some simple maintenance



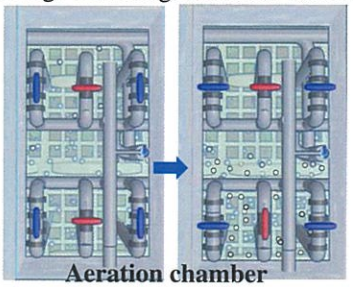
①Desludging before the sedimentation chamber is full of sludge.

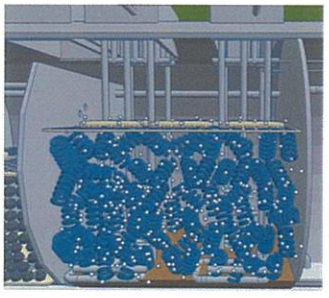
Mainly NH_4-N and organic matter (BOD) flows into the system. Solids and sludge are stored in the sedimentation chamber with time.

②Backwash of Filter media and sludge transfer

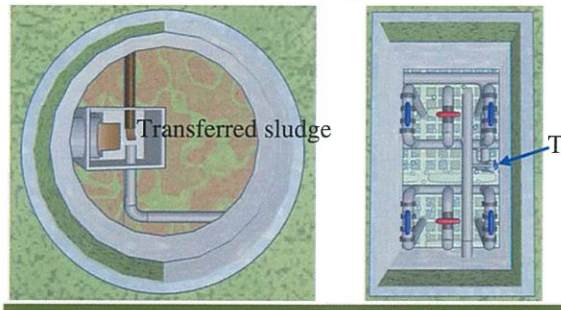
Organic matter is oxidized and gets stuck on the filter media with suspended solid (SS).

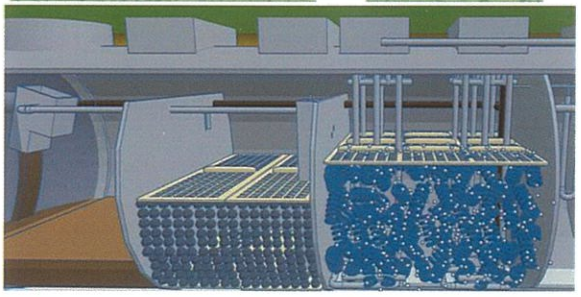
Turn some valves to concentrate the aeration for backwashing. The sludge settles at bottom





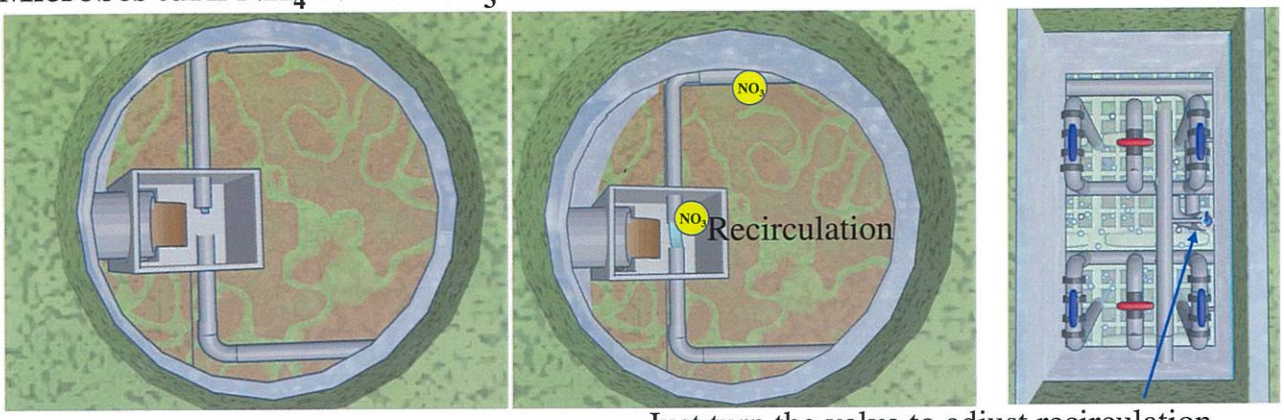
Turn a valve to transfer the sludge to the sedimentation chamber





③Adjusting amount of recirculation

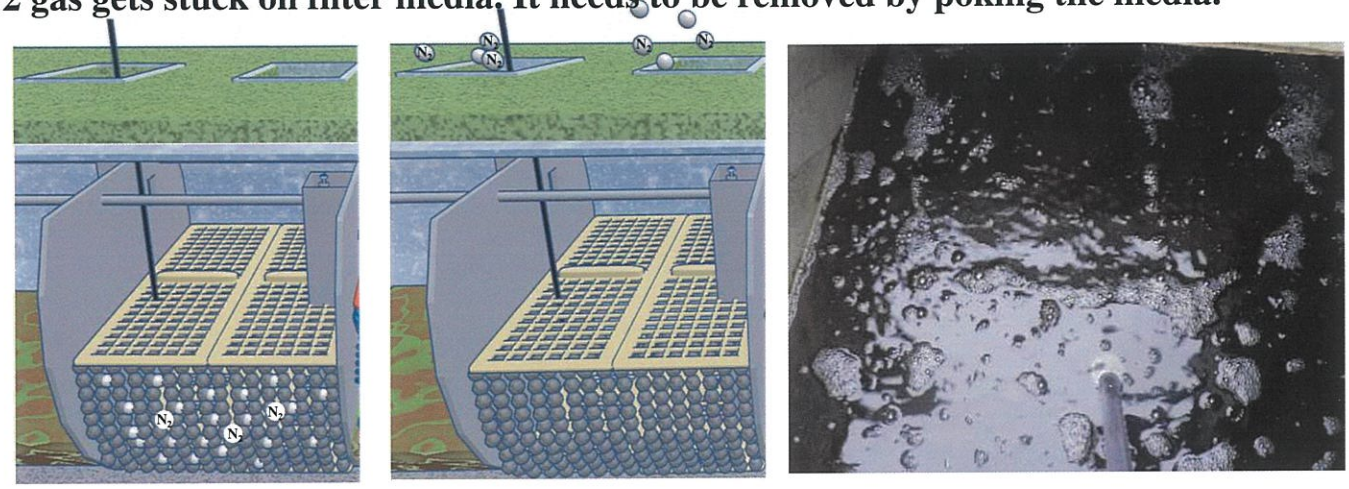
Microbes turn NH_4-N into NO_3-N. Part of it is recirculated for denitrification.



Just turn the valve to adjust recirculation

④N2 gas release

Microbes convert NO3-N to N2 gas (Organics + NO_3-N $\rightarrow 1/2N_2 + 2H_2O + CO_2$)
N2 gas gets stuck on filter media. It needs to be removed by poking the media.

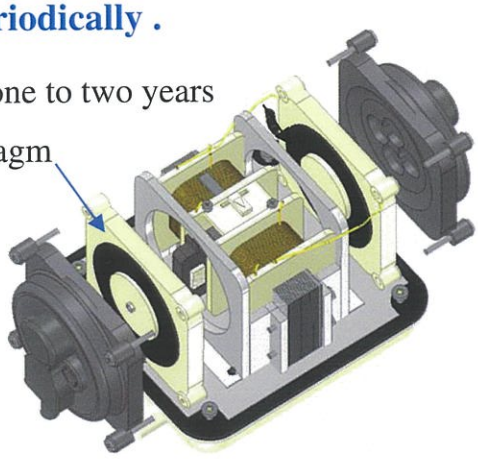


⑤Replacement of Air pump blowers

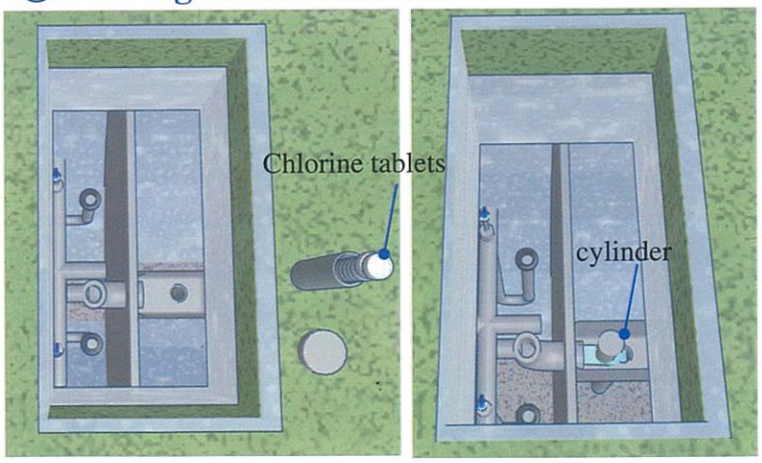
Diaphragms keep moving 24/7 and are replaced periodically .

Clean every time and replace every year

Replace every one to two years

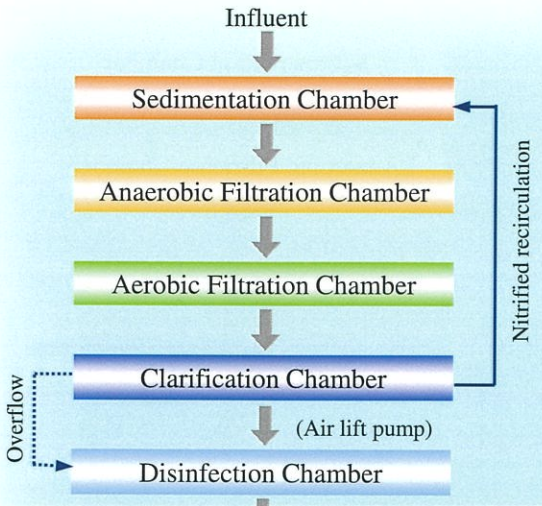


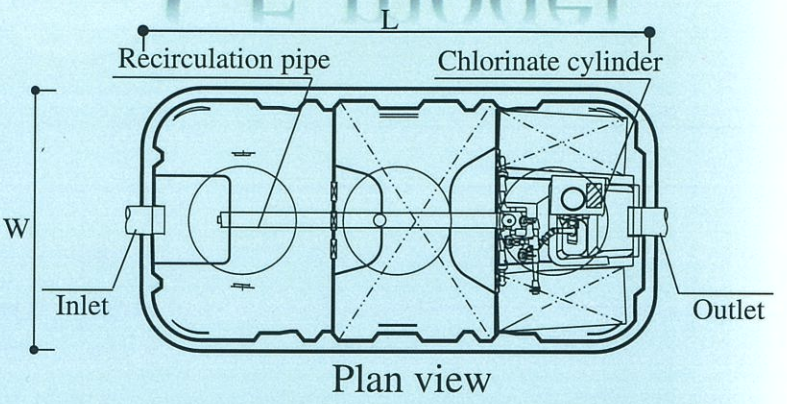
⑥Refilling of chlorine tablets



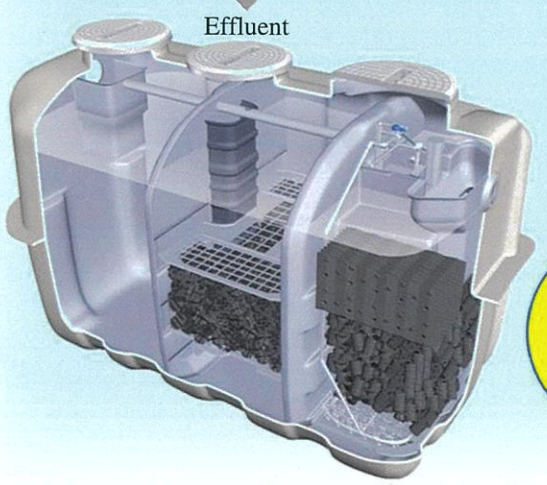
Chlorine tablets in the cylinder disinfect treated water.
Just refill the tablets at the time of the maintenance.

CE model

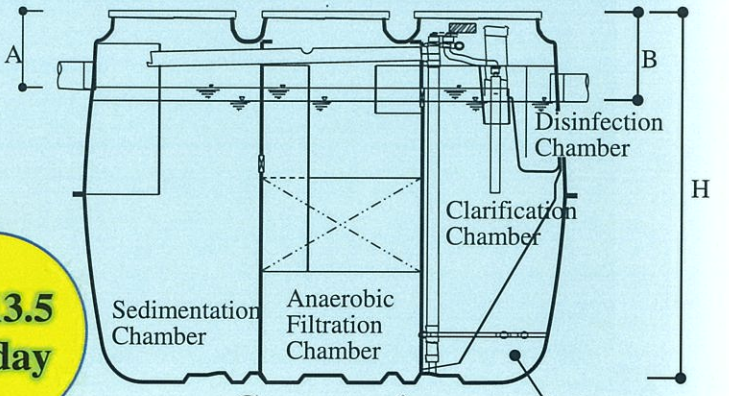




Plan view



1~13.5 m3/day

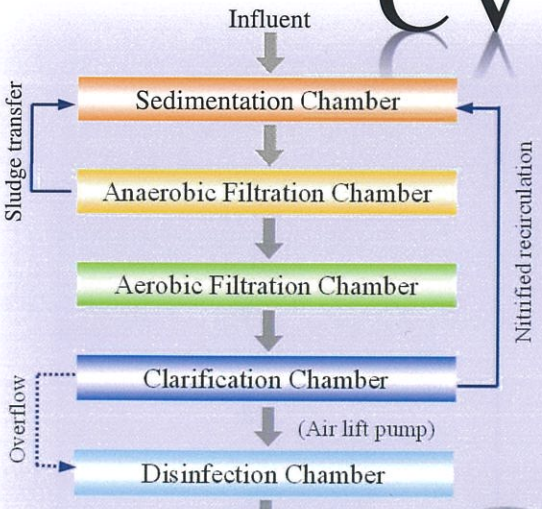


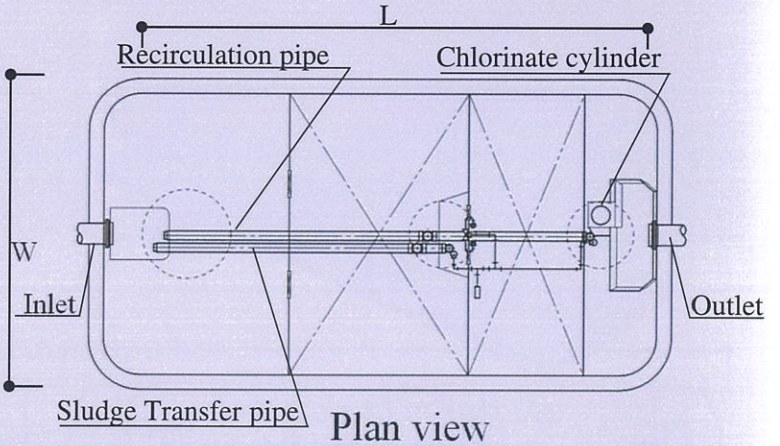
Cross section

Influent & Effluent design

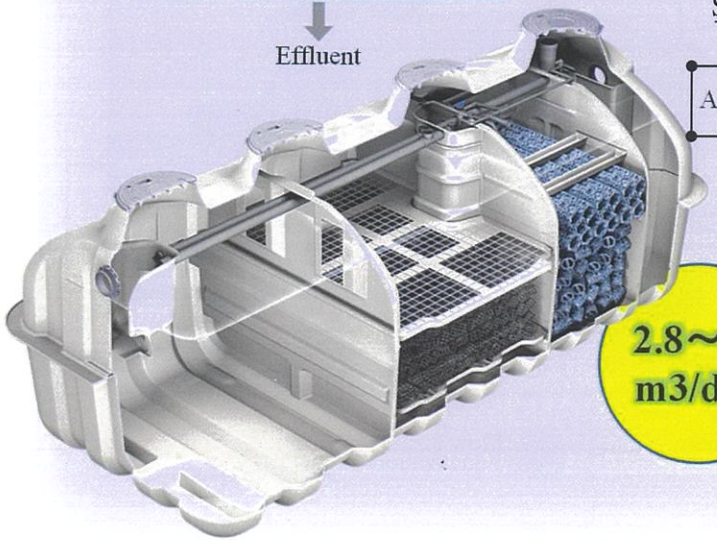
BOD:200 → 20 mg/L
SS:160 → 20 mg/L
T-N:50 → 20 mg/L

CV model

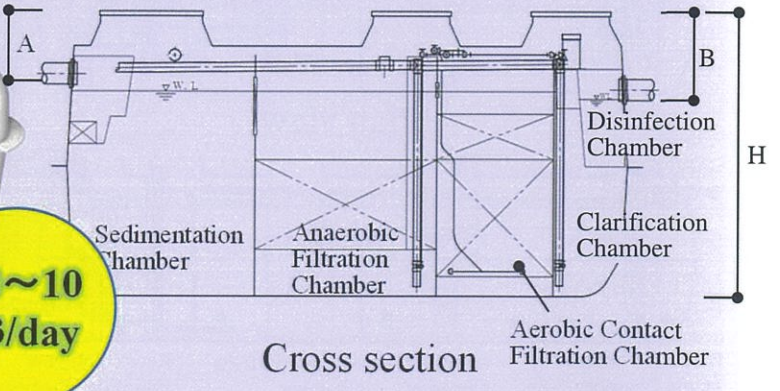




Plan view



2.8~10 m3/day



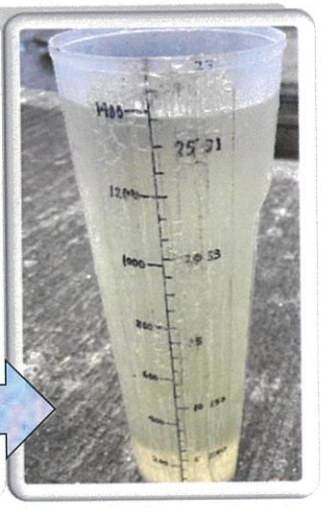
Cross section

Project achievements

Municipal sewer project
165 m3/day

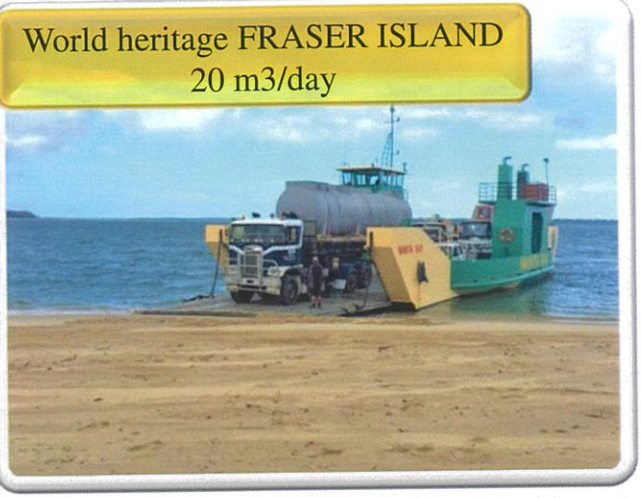
Municipal sewer project
80 m3/day

Fast-food



Suffolk county in US Residence
More than 40 % market share

World heritage FRASER ISLAND
20 m3/day



Hospital
157 beds

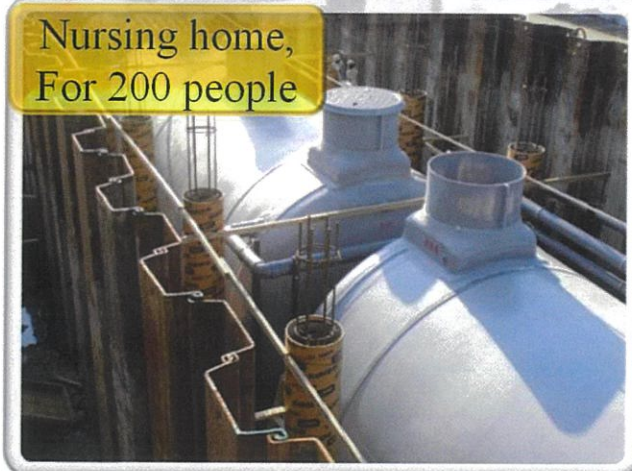
Plaza Rizal
40 m3/day

Factory
20m3/day

Restaurant
23 m3/day

Shopping center
37 m3/day

Nursing home,
For 200 people



Blackwood Project Residence
More than 100 units

Restroom in an
Island 10 m3/day

Factory
For 430 people

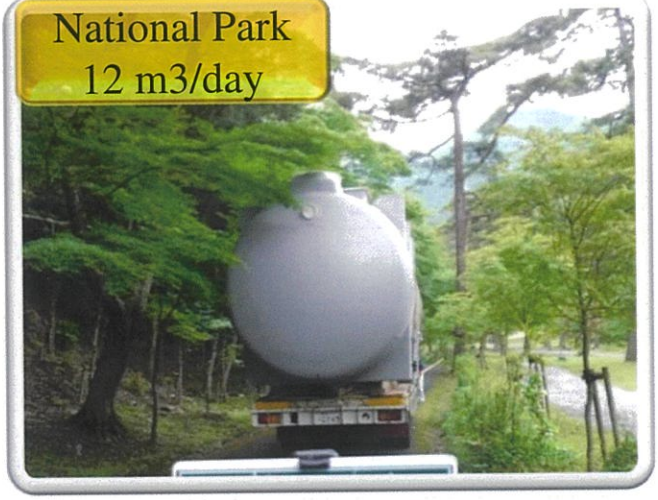
Community center
For 250 people

Lodge
40 m3/day

Apartment building
For 80 people

Gas station
20 m3/day

National Park
12 m3/day



Resort Hotel
40 m3/day

Temporary housing
after an earthquake