Drainage System

SEIKA ecorator

Powerful airlift efficiency doubles the agitation effect and is practical for fluid carrier tanks! Oxygen resolution efficiency is 30% higher than with conventional cylindrical air diffusers. Resulting energy savings are to be expected.

Features of SEIKA ecorator

No clogging

Large section area of the air emission part avoids any clogging. Intermittent operation is also available.

No sediment on the tank bottom

The ejector mechanism employed in the body assures a vast fluid passage area in the cylinder. The ecorator sucks up a large amount of sludge and remaining fluid and is able to equally agitate heavy sludge in the tank.

High-efficiency oxygen resolution

The ejector and venturi cutter generate fine air bubbles. In addition, the powerful airlift effect finely breaks down the sucked air bubble water over and over again.

Energy saving effect

Smaller risk of damage caused by pressure and high-efficiency oxygen resolution at the air emission component combine to reduce the burden on the blower to enable stable operation with less power consumption.

Perfectly maintenance-free

With no clogging, regular cleaning or part replacement is not necessary, long-term use of the ecorator is possible without any decline in initial performance.

Advantages of the SEIKA ecorator

(compared with various explosion air methods)

Explosion air method	SEIKA ecorator ECO-1000 <cylindrical air diffuser>	Old model (SA-130) <cylindrical air diffuser>	Conventional air diffuser <diffuser, porous air diffuser, etc.>	Mechanical explosion air system <underwater aerator, surface explosion air system, etc.>
Lifetime	○ Approx. 15 years or longer	○ Approx. 15 years or longer	× Approx. 3-5 years	△ 10 years or longer if maintained appropriately
Clogging (maintenance)	○ No clogging	○ No clogging	× Always clogged	× Needs maintenance nearly every year
Dead space	○ No accumulation of sludge thanks to powerful airlift effect	○ No accumulation of sludge depending on layout	× Accumulation of sludge	× Dead space always results
Power consumption	○ Improvement in oxygen resolution efficiency lessens blower power	○ Higher-efficiency of blower power is possibleby lowering damage caused by air emission pressure	△ Remarkable clogging results in dropping resolution efficiency	△ Motor power is comparatively large
Effect vs. cost	○ Fewer pipes reduce initial cost	○ Initial cost is comparatively low if piping cost is included	△ Unit price is low but piping cost is high due to the use of many pipes	△ Large system & high initial cost
Easy installation & piping	○ Exchangeable even when full of water	○ Exchangeable even when full of water	× Drainage work needed	△ Large system requires significant construction work
Agitation power	○ Increased agitation power via an improvement in flowrate.	○ Able to agitate due to the airlift effect.	× Unable to agitate the material at the tank bottom.	△ Difficult to agitate the material at the tank wall.

Interior Structure of the SEIKA ecorator

Air is equally distributed all over the cylinder interior by positioning the air emission component on the outside of the inner cylinder and by employing a special gas distribution structure. The air emitted from the emission component creates a stripping phenomenon as a result of the newly developed MCV structure. Structural refinement enhances oxygen resolution efficiency.

Powerful suction power

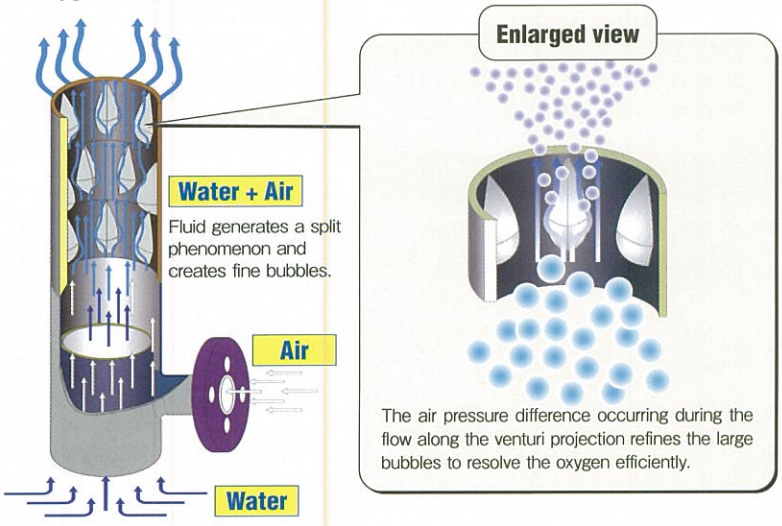
Employment of a newly developed ejector theory for the air emission component has more than doubled suction power compared with our conventional sister product SA-130.

Basis for the lack of clogging

1. The large section area of the air emission component seldom incurs a back-flow.
2. The air emission section area is about 40 times that of the mem brane diffuser.

Principle of fine air bubble creation

1. The air emission component is on the outside of the inner cylinder and the air and water is split with a cutter for efficient mixing.
2. The venturi cutter employs aeromechanics which generate a pres sure difference between passing water and air bubbles, splitting the air bubbles, and refining the structure.
3. The unique powerful suction sucks a large amount of sludge water from the tank bottom, increases contact with the air bubbles, and heightens the oxygen resolution efficiency.



SEIKA ECORATOR Jr

—Feature—

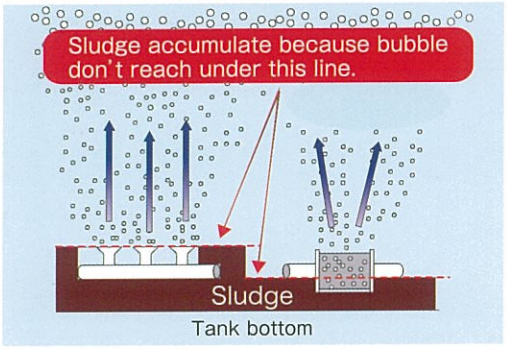
Long life time — Large air outlet enables long life time

- No consumable parts. No clogging. No maintenance. No replacement.
- Material : Polypropylene (High resistance to chemical and temperature.)

Easy replacement — Easy connection to the branch pipe for existing membrane diffuser

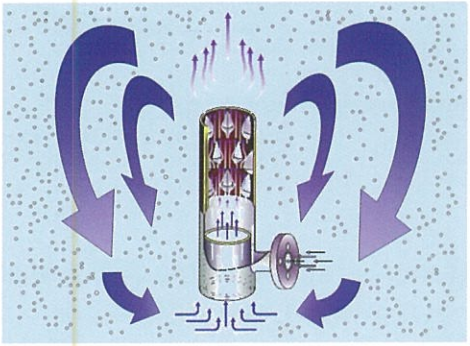
Sludge vacuuming Mixing — Vacuuming sludge from the bottom and mixing prevent from accumulating sludge and occurring anaerobic condition. Less Oxygen is needed.

Membrane diffuser



Sludge always accumulates under the outlet line since aeration holes are facing for upward. Accumulating sludge is in anaerobic condition. It causes high oxygen consumption.

Ecorator Jr



Inside of Ecorator Jr has a double structure.
This structure enables vacuuming waste water containing sludge thanks to its ejector effect.

Specification

- Material : Polypropylene
- Connection : 20A union and flange type
- Outlet air : 150 to 300ℓ/min
- Weight : Appx.400g