Outstanding adhesion with a filter bed that facilitates reproduction of microorganisms beneficial in water purification

Water Treatment with Ring Lace Filter Beds

Features

- Outstanding microorganism supplementation capacity and fixation
- No filter bed blockages thanks to low resistance to water flow
- Ability to treat persistent organic pollutants in low concentrations

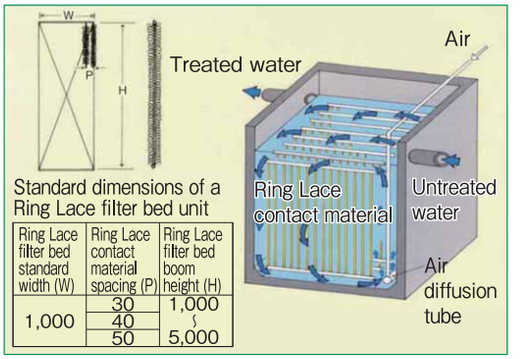
Overview (Technical principles, actions, etc.)

Ring Lace was developed as a filter bed for use in organic wastewater treatment. An optimal arrangement of braided ribbons (Ring Lace elements) serves as the filter bed in water treatment applications.

The filter bed's shape and material give it extremely high microorganism supplementation capacity. Excess microorganisms are removed as the ribbons vacillate with the movement of water across them, keeping the filter bed free of blockages and ensuring consistent treatment performance.

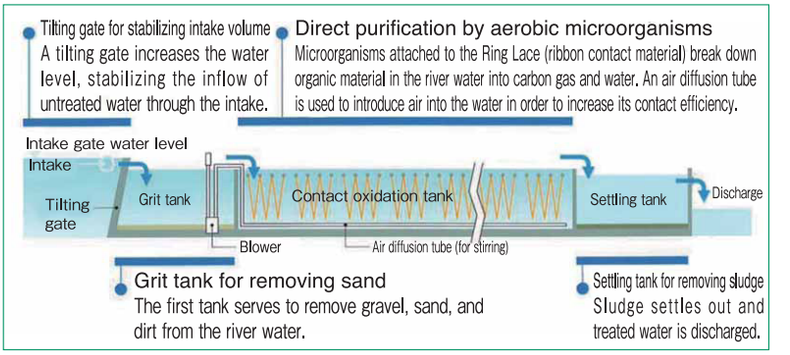
Because microorganisms that have adhered to the filter bed are characterized by a long sludge retention time (life span), a population of microorganisms that are well suited to the particular type of wastewater being treated develops naturally on the filter bed. This characteristic enables the system to efficiently break down low-concentration wastewater and persistent wastewater that would be difficult to treat using activated sludge treatment (which has a short sludge retention time).

The Ring Lace filter bed resembles a high-density arrangement of aquatic plants (which house microorganisms) growing in a river or ocean environment. The shape and configuration of the product serve to maximize the microorganisms' natural purifying capabilities.



Ring Lace filter bed standard width (W)	Ring Lace contact material spacing (P)	Ring Lace filter bed boom height (H)
1,000	30	1,000 ~ 5,000
	40	
	50	

Ring Lace contact aeration tank design



Overview of the Higashiikoma River Purification Facility

Introductory Track Record

Fifteen sites in South Korea

The system has been sold through a South Korean trading company as a filter bed for use in industrial wastewater treatment.

Eight sites in Malaysia

The system has been sold through a domestic plant manufacturer as a filter bed for use in industrial wastewater treatment.

Approximately 600 sites in Japan

The system is being used in applications including residential sewage treatment, industrial wastewater treatment, and river water purification.

Effects

◎Advanced treatment of wastewater

The system is capable of advanced treatment of water that has been treated using conventional methods such as activated sludge, lowering BOD levels from 20 mg/L to less than 10 mg/L.

◎Thanks to the extreme ease of maintenance offered by this technology, the system has seen wide adoption by small-scale wastewater treatment facilities.

◎The system provides an effective way to purify industrial and other wastewater containing persistent organic material, and it can efficiently treat wastewater that would be difficult to treat using activated sludge.

◎The system delivers consistent performance in river water purification applications thanks to the strength of microorganism adhesion and the fact that the braided ribbons move along with water flow to prevent filter bed blockages. (However, garbage and other contaminants must be removed from the river water before passage through the system.)

Kajima Environment Engineering Co., Ltd. Design Department
Sixth floor or, Arai Building
1-5-31 Motoakasaka, Minato-ku, Tokyo 107-0051
● TEL / +81-3-3746-7681 ● FAX / +81-3-3746-7680 ● E-mail / kawakami@kee.jp ● http:/www.kee.jp