

Harnett Filter Bed

- Bamboo suspension type and surfacing type filter bed made from flat retiform tubes formed with thin polyethylene resin wire.
- The dimensions can be freely selected from standard width (W) 60-100cm and length (L) according to the depth of the processing tank.
- Because it is a hanging method and a float type, it is possible to set it up even if the water -lined.



Features

1. There is adhesiveness of a moderate biological slime.
2. The specific surface area and the void ratio are large.
3. There are no filter bed blockages, and the water pass resistance is little.
4. Flotage acquisition performance is high.
5. Hazardous substances are not eluted.
6. Contacting efficiency is good because of the water current's swinging effect.
7. Abrasion of the waste sludge is uniform and constant.
8. Improvements to existing tanks can be easily made.

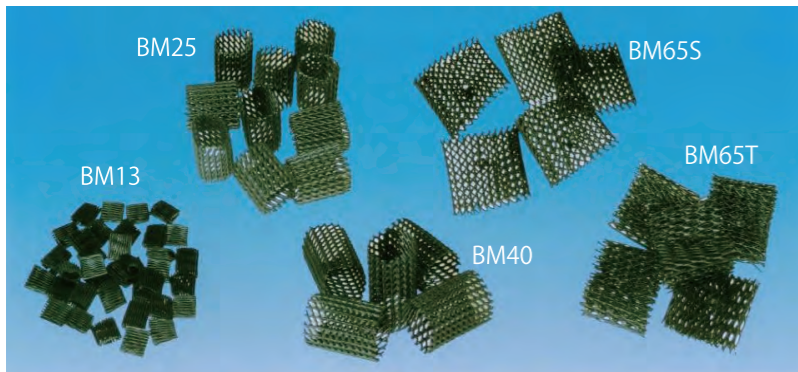
Intended purpose

1. Secondary and tertiary treatment of industrial by-products and living drainage.
2. For the treatment of waterworks and drainage.
3. For the preprocessing of various rainwater
4. For the purification of lakes, marshes and rivers.
5. For the rectification net of the precipitation tank.
6. For the filling material of water-cooling.
7. For exhaust gas and malodor treatment.

Biotechnology Mesh

Filling material for high performance sewer water treatment

- The concept of current waste water treatment is being greatly changed with "Biotechnology mesh"
- The contact filter bed is completed merely by pumping it to the processing tank at random with a netlike object
- Because the touch area is large, and turbulent flow comes in contact, the processing performance is outstanding.



Features

1. There is adhesiveness of a moderate biological slime.
2. The specific surface area and the void ratio are large.
3. The water pass resistance is a little.
4. Flotage acquisition performance is high.
5. There is no large specific gravity with water, and large loads are not generated in the aquatic structure or the bottom of the tank.
6. Low cost

Specifications	Product number	Dimensions (mm)	Quantity (number/m ²)	Proportional area (m ² /m ²)	Void ration (%)	Material
	BM13	13 × 18	300,000	1,000	80	Polyethylene
	BM25	25 × 35	33,000	160	90	
	BM40	40 × 60	10,000	90	95	
	BM65S	65 × 65 × 10	27,000	250	92	
	BM65T	65 × 65 × 30	10,000	450	94	

■ Sales & Marketing

FROM "DUMPING" TO "APPLYING"



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Harnett Multi-tank Water Treatment Device

Patent acquired

It not only treats and reproduces water, but also generates "Vitalized water".

KASSUI PLANT

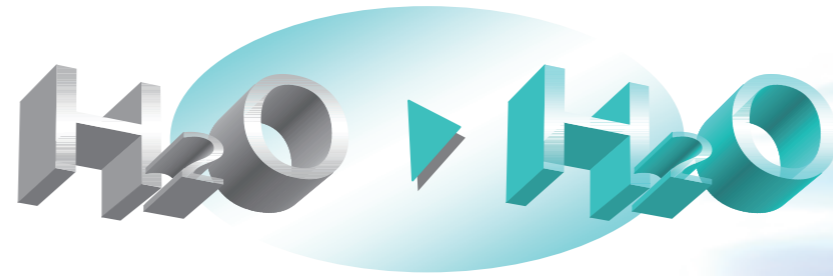


Our original “Harnett Multi-tank Water Treatment Device” is a high performance, economically efficient and innovative type of wastewater processing device, which prioritizes the life environments of microorganisms using contact oxidation method.

Secure the top part of the bamboo "Harnett filter bed" made from resin mesh in the water, dip it vertically, and bring the activated sludge attached to the filter bed into contact with the wastewater.

As a result, the BOD source is taken into the cell, the BOD source decomposes inside the cell, and assimilation phenomenon occurs, and BOD source is assimilated. Moreover, the generated waste sludge decreases to a great extent because autolysis progresses due to the anaerobes that localize in the biological slime, and also because of the biological food chain.

In addition, the anaerobes can be completely decomposed from soil nitrate nitrogen to nitrogen gas, and can be discharged into air, which was assumed to be difficult with conventional biological treatment. That is,--- "Under aerobic conditions, oxidative decomposition occurs with the BOD and is assimilated. Under anaerobic conditions, the digestive treatment and the soil nitrate nitrogen are denitrified." The contradictory reactions are enabled to be progressed on the surface and in the biological slime simultaneously. (Patent acquired in 6 countries in Europe and America, Japan, South Korea, and Taiwan)



Features

- The biological slime adheres easily because the floor is reticulated.
- No bulking at all.
- Waste sludge is reduced to less than 1/10, due to the food chain and autolysis.
- Returning sludge is unnecessary.
- It is compatible with low concentration to high concentration wastewater.
- Because there is a regular vertical interval, the filter beds do not block each other at all.
- Ideal for the drainage exclusion facilities .
(the desired numerical value of treated water can be obtained)



Stainless treatment tank

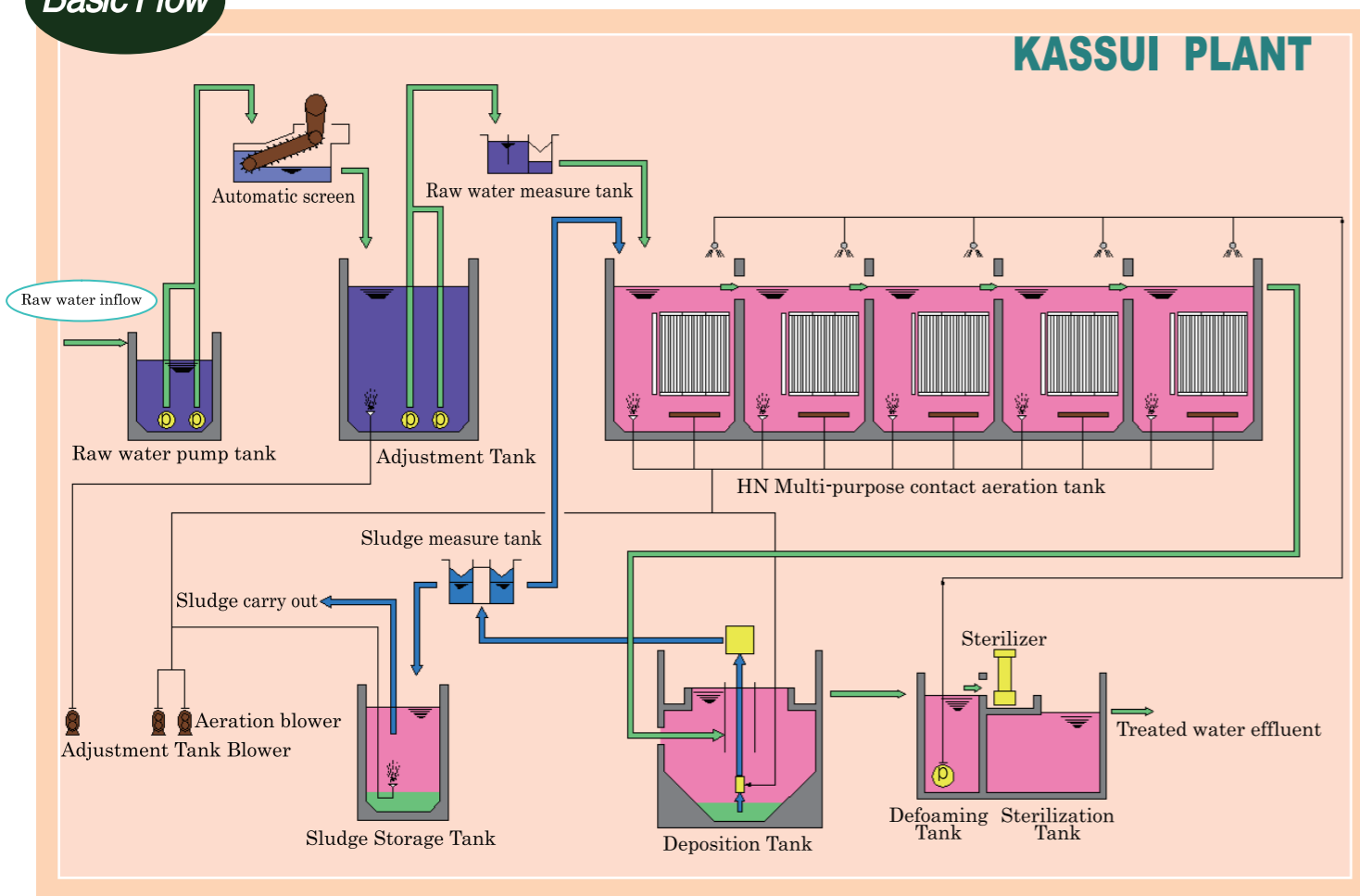


FRP Treatment Tank



Batch-wise treatment tank (reconstruction example)

Basic Flow



If you compare, the differences are apparent

Harnett multi-tank dip filter bed contact method	Comparisons	Standard activated sludge process
0.8 ~ 2.0kg/ m ³ · day Good BOD capacity load with small processing tank.	BOD capacity load	0.4 ~ 0.8kg/ m ³ · day The processing tank is large.
Approx. 20,000mg / Large treatment capacity.	Sludge density	2,500 ~ 6,000mg/ Small treatment capacity.
Number PPM of BOD can always be achieved The COD removal ability is outstanding. Tertiary treatment is possible.	Density of treated water	Under BOD20PPM is difficult. The removal of COD is inferior. Tertiary treatment is impossible.
State variation does not occur with a little oil, and is treatable.	Oil processing	If oil mixes, changes in state occur, and recovery takes time.
Flotage is caught.	SS Removal	Flotage is not caught
Deposition is good. Deposition tanks are small.	Deposition of polluted sludge	Deposition is bad. Deposition tanks are large.
The degree of clarification is outstanding.	Treat water clarification level	Degree of clarification is inferior. When sludge leaks, it becomes brownish red.
1-3% of the BOD removal amount · Expenditure is less than 1/10.	Amount of waste sludge	20% of the BOD removal amount · sludge treatment expenditure is high.
Cushioning properties are good. · Absorbency is good.	Load change temperature change	Cushioning properties are inferior · the balance goes out of order.
Many types of multicellular organisms and bacilli. The main types of organisms differ according to each tank.	Types of microorganisms	Mainly bacilli Each tank has the same organisms.
Does not occur.	Bulking phenomenon	Occurs frequently.
Not required.	Return sludge	Required.
Can easily be conducted by expanding the aerating.	Expansion	Cannot be conducted easily.
4-10%	Aeration efficiency	3-5%
Microorganisms that correspond to the amount of aeration proliferate naturally.	Overaeration phenomenon	The sedimentation property of dirt worsens.
Seasonal changes do not occur easily.	Operation condition	Changes occur easily at the turn of the season.