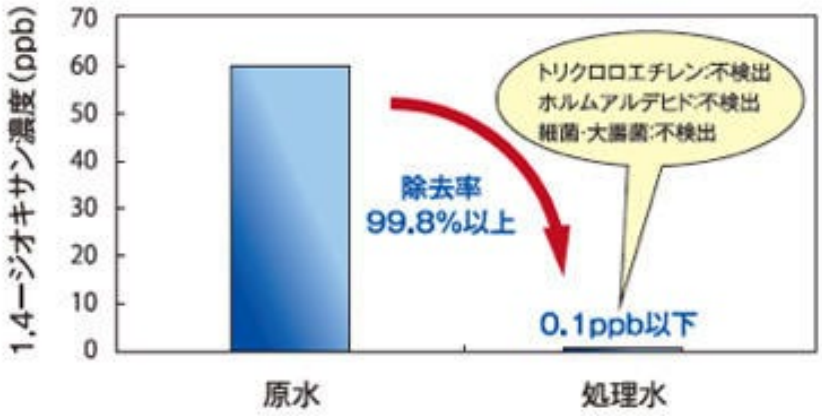
Features

K-FILTER ® VOC wastewater treatment apparatus

K-FILTER ® removes trace amounts of hazardous organic substances such as 1,4-dioxane from groundwater and well water, and provides a water purification equipment that can be used for food production and drinking water. The system can purify water safely and with high quality without generating byproducts, and K-FILTER ® can be used repeatedly, making it possible to purify water at low cost.

- Our unique adsorbent, activated carbon fiber "K-FILTER ®," and on-site recycling system is used.
- Conform with Food Sanitation Law, JWWA leaching test cleared, and can be removed even at concentrations in the order of ppb and ppt.
- Apparatus design proposals are possible even for large water volumes, and no generating byproducts such as formaldehyde.
- Annual consumption is 1/1000 or less compared to granular and powdered coal, and can be combined with oxidative decomposition equipment, etc.
- Capable of treating 1,4-dioxane, chloroform, trihatomethane, 2-MIB, geosmin, etc.

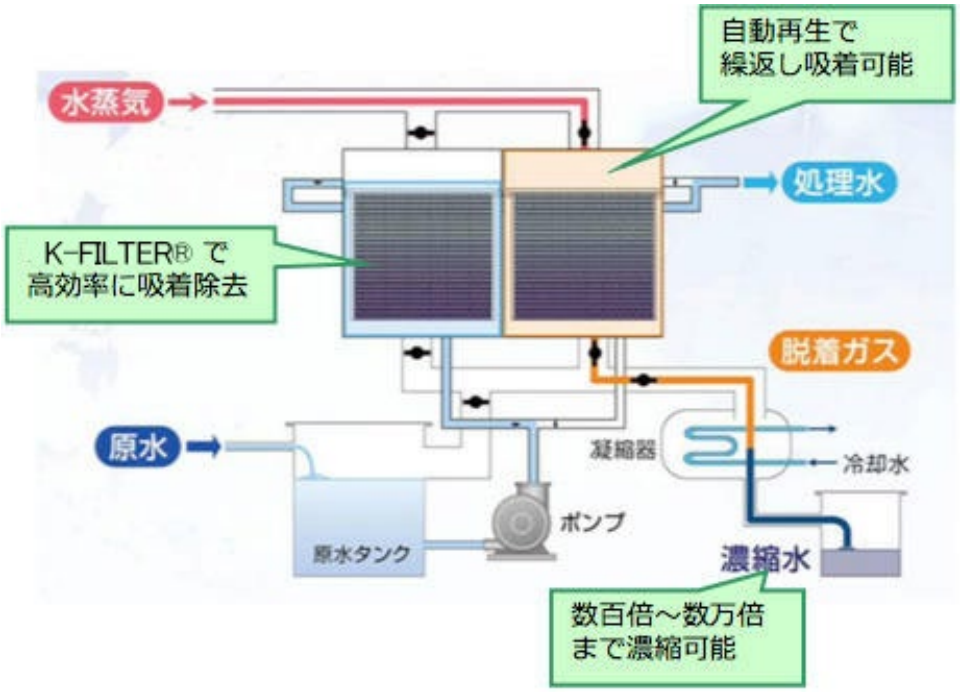
装置外観



Features

K-FILTER ® VOC wastewater treatment equipment

By incorporating K-FILTER ®, an activated carbon fiber with a high VOC removal rate, and adopting an on-site adsorption/desorption system, we have commercialized a new type of wastewater treatment equipment that has never been used before. VOC wastewater treatment can be performed with a high removal rate and low cost, contributing to compliance with laws and regulations, reduction of wastewater treatment costs, and reuse of wastewater.



1 VOC in water can be treated with high efficiency
K-FILTER ® has high adsorption and desorption characteristics, so VOC in water can be removed with high efficiency and stability.

2 Can concentrate VOC in water
>Steam desorption reduces the volume of wastewater and recovers VOC in wastewater as valuable materials.

3 Almost selective removal of specific VOC
Even in the presence of a high concentration of COD, only specific VOC (such as 1,4-dioxane) can be removed with high efficiency.

Less activated carbon used for 4 years, less space
Since the adsorbent is regenerated on-site, 500 to 1/1000 of the amount of activated carbon is required compared to the conventional adsorbent activated carbon tower, and the installation area is also space-saving.

5 Easy maintenance and fast recovery time
No waste such as excess sludge is discharged, so daily maintenance is unnecessary. Recovery time from outages is also fast, so it can be operated only when wastewater treatment is required.

Processing Examples

K-FILTER ® VOC wastewater treatment equipment

Industry	Name of the substance	Example of processing			
		Water volume (t/day)	Raw water concentration (mg/l)	Treated water concentration (mg/l)	removal rate (%)
final disposal site	1.4 Dioxane	220	50	0.05	99.9
Groundwater	1.4 Dioxane	3,000	0.5	0.01	98
VOC recovery device Detached wastewater	Isopropyl alcohol	17	850	27	96.8
	ethyl acetate	24	25,000	0.5	99.9
	ethanol	24	270	17	93.7
	acetic acid	24	1,600	23	98.6
	methylene chloride	900	0.2	0.0001	99.9
chemical factory	1.4 Dioxane	75	1,100	10	99.1
	N-Methylpyrrolidone	38	144	1.6	98.9
	N, N-Dimethylformamide	24	2,000	200	90
	Acetone	10	15	0.5	96.7

Lineup

Wastewater treatment equipment

K-FILTER ® VOC Wastewater treatment equipment

2 U 2 - F 24 G
① ② ③ ④ ⑤ ⑥

①槽数

②R：円筒槽並列型、U：角層並列型

③1槽当りの分割数（分割槽の数）

④カートリッジタイプ

⑤全カートリッジ数

⑥脱着類体 G：加熱空気、S：蒸気、SS：過熱蒸気

Type description

Lineup

Steam Type

Treated Water (L/h)	Type	Dimensions (m)			Operating weight (kg)
		L	W	H	
100	2U1-A2S	2.0	1.0	2.0	1,200
500	2U1-C2S	2.2	1.2	2.2	1,700
1,000	2U1-C2S	2.6	1.6	2.2	2,900
3,000	2U1-E4S	3.0	2.0	2.5	6,300
10,000	2U1-F4S	3.2	3.0	2.8	15,100

water treatment system

Example of wastewater treatment system (aeration +KW+ catalytic combustion)