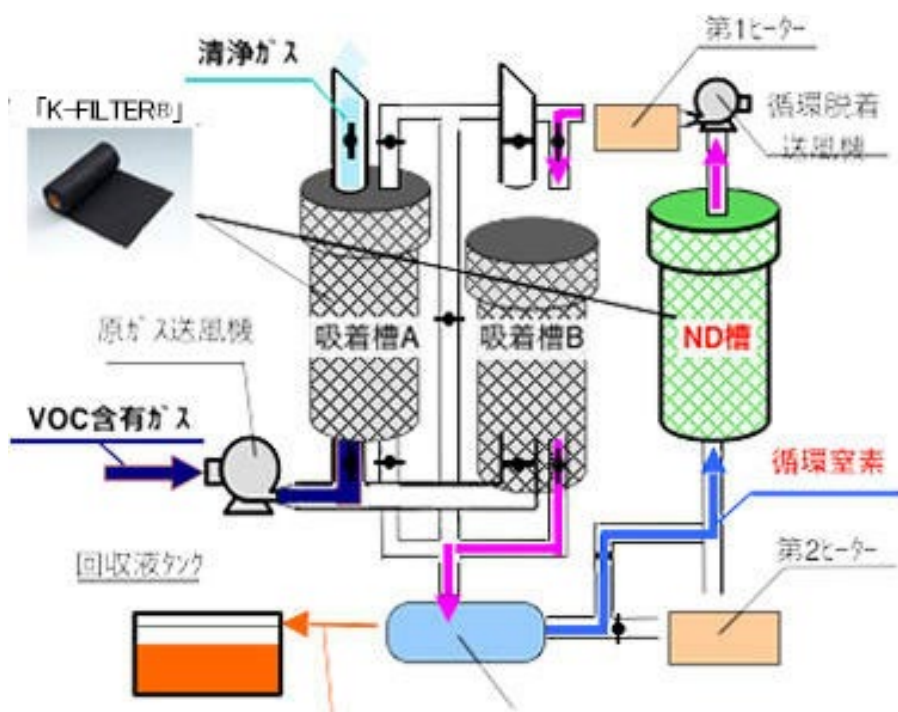


# Features

## Nitrogen desorption type K-FILTER<sup>®</sup> VOC recovery apparatus

The adsorbent K-FILTER<sup>®</sup> and our company's proprietary nitrogen desorption method are used to recover ethyl acetate exhausted from printing plants and IPA exhausted from semiconductor plants. It can contribute to resource conservation, regulatory measures, and CO2 reduction by reusing water-soluble solvents.

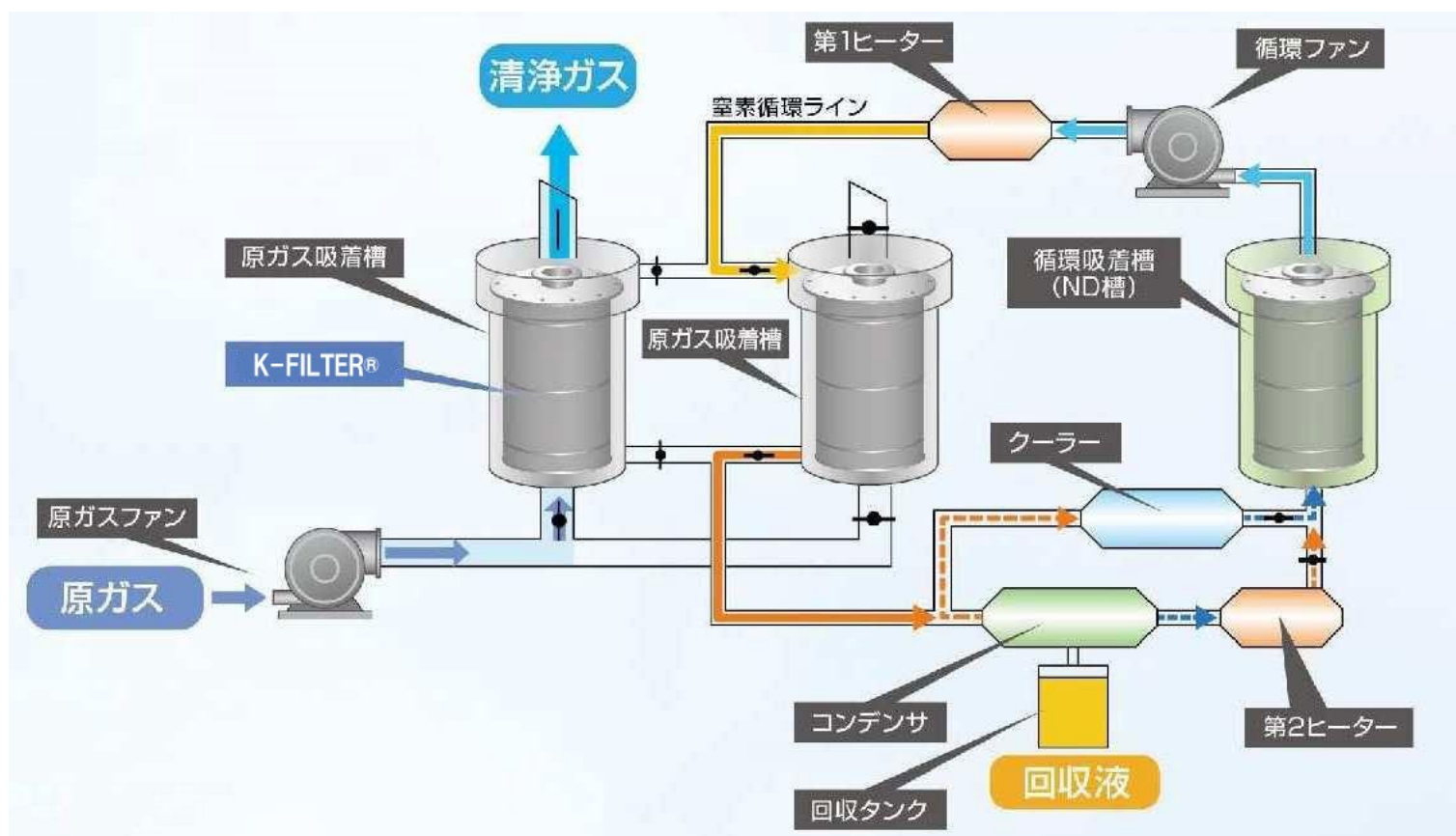
In this system, VOCs in exhaust gas are alternately adsorbed and desorbed in two pairs of adsorption vessels, each containing K-FILTER<sup>®</sup>. Uncondensed VOC-containing nitrogen is emitted when the desorbed VOCs are collected, but nitrogen is cleaned and recycled in the ND vessel containing K-FILTER<sup>®</sup>, so it can be processed at low running costs.



## Features

### Nitrogen desorption type K-FILTER<sup>®</sup> VOC recovery apparatus

This apparatus recovers organic solvents from VOC-containing gases with minimal wastewater discharge. By combining the excellent adsorption and desorption properties of activated carbon fiber material "K-FILTER<sup>®</sup>" with our unique nitrogen desorption method, it can recover solvents with such high purity that they can be reused, even for water-soluble solvents. Nitrogen is recycled and reused, so it can be processed at a low running cost.



# Features

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## Nitrogen desorption type K-FILTER<sup>®</sup> VOC recovery device

### (a) Recovery of organic solvents with low water usage (minimal wastewater discharge)

By using K-FILTER<sup>®</sup> to adsorb VOCs and then desorbing and recovering them with heated nitrogen, it allows for much lower water usage compared to desorption with steam. This enables the recovery and reuse of water-soluble solvents and significant reduction in wastewater.

### (2) Energy-saving operation

Nitrogen used for the desorption of VOCs is reused in a unique recycling system, so it can be treated at low running costs.

### 3 Excellent VOC removal performance

The excellent adsorption and desorption characteristics of K-FILTER<sup>®</sup> and its unique nitrogen desorption method enable it to achieve higher removal and recovery rates and lower VOC emission concentrations than granular activated carbon.

### 4 Recovery of high-purity organic solvents

By using high-purity, low-catalyst K-FILTER<sup>®</sup> VOCs can be desorbed at a low temperature (approximately 120°C) and in a short time (5 to 15 minutes), resulting in minimal decomposition or denaturation of the recovered solvent.

### 5 Space saving and easy maintenance

The apparatus can be installed in a lightweight and space-saving manner due to the low adsorbent filling volume, making it suitable for height restrictions. Furthermore, because of the fixed-bed design, there is minimal wear on the adsorbent material, resulting in very little clogging of the adsorbent.

## processing power example

### Nitrogen desorption K-FILTER<sup>®</sup> VOC recovery apparatus

Substance name	Example of processing		
	Raw gas concentration	Treatment gas concentration	Removal rate
	(ppm)	(ppm)	(%)
ethyl acetate and others	1000	29	97
	2000	59	97
IPA	4000	68	98.3
ethanol	1004	13	99
PGME, IPA, cyclohexane	2350	65	97
Toluene	2500	26	99

## Nitrogen Desorption K-FILTER<sup>®</sup> VOC Recovery Apparatus

Model Example	Processing Airflow (m <sup>2</sup> /min)	Dimensions (mm)			Approximate weight (t)
		L	W	H	
2RG02ND	25	3,500	7,500	5,300	6
2UG-4XND	50	5,000	7,000	5,300	7
2US-4ND	100	5,500	7,500	7,000	15
2US-8ND	200	5,500	11,000	7,000	27
2US-18XND	500	12,000	13,000	8,600	43