(Catalyst oxidation apparatus, Direct combustion apparatus, and Heat storage combustion apparatus) Combustion apparatus

We analyze VOCs and other components in the exhaust gas and use our company's combustion knowledge to select the most suitable combustion apparatus. We also propose a more cost-effective system (such as a combination with a concentration apparatus).

What is a catalytic oxidizer (TC type)?

- By using a catalyst, VOCs can be oxidized and decomposed at relatively low temperatures (～450°C).
- Relatively inexpensive fuel costs and economical. Electric heat source can be used.
- In case of containing catalyst poison (organic silicon), it may be difficult to apply.

What is a direct combustion apparatus (TB type)?

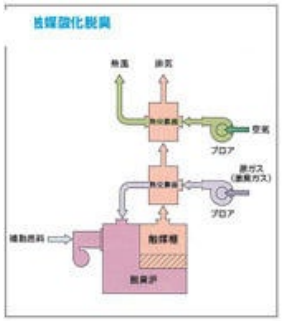
- It is oxidized and decomposed under a high temperature atmosphere of 700 ~ 900°C.
- Highly efficient processing is possible with complete combustion, and it has a high tolerance for tar and dust.

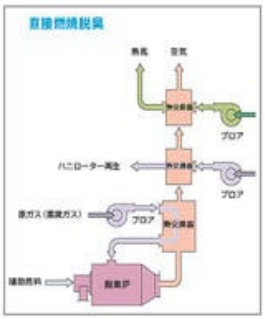
What is a heat storage combustion apparatus (RTO type)?

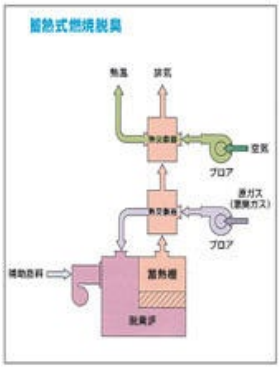
- Heat recovery of 95% or more is performed with heat storage material, and exhaust gas is subjected to oxidation decomposition at 800 ~ 900°C.
- Heat recovery rate is extremely high and running cost is low.
- Complete combustion enables highly efficient processing.

Features

(Catalyst oxidation apparatus, Direct combustion apparatus, and Heat storage combustion apparatus) Combustion apparatus







We provide an oxidation and decomposition apparatus that can significantly reduce waste generation with high efficiency.

We propose the most suitable apparatus tailored to the gas specifications from 3 types of fuel apparatus.

1 High-efficiency treatment

We design catalysts, residence times, and reaction temperatures based on our company's databases to achieve high-efficiency processing.

2 Treatment with less secondary pollution

We aim to achieve complete combustion. The waste generated is minimal due to dry processing. Toyobo has been selling a large number of K-FILTER ® and HONEYROTOR ® solvent and odor adsorption (recovery and concentration) systems to meet ecological needs. We have now incorporated an oxidation decomposition unit into our systems, which offers even higher efficiency and significantly reduces waste generation.

3 Advanced analytical technology

We have accumulated our proprietary advanced analytical technology for trace substances that can impair the catalytic function such as catalyst poisons.
We provide consistent support from the preliminary confirmation of catalyst poisons to the diagnosis of catalyst life after installation.

4 High cost effectiveness

Combining with HONEYROTOR ® and K-MATROLL ® , which concentrate VOCs, the processing air volume decreases, and we utilized the regeneration heat source and surplus exhaust gas for energy efficiency.

5 Designed focus on safety

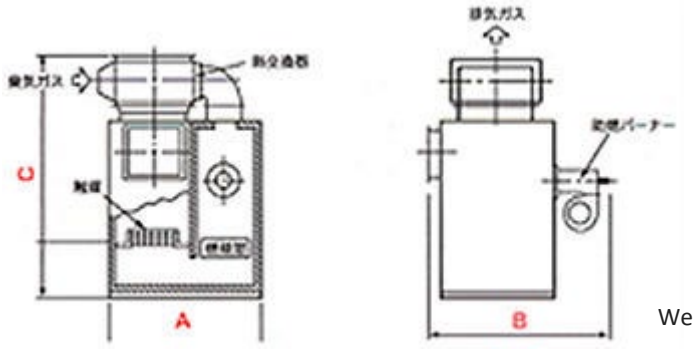
We choose burners and heaters with a proven track record and prioritize fully automated operation for maximum reliability.

(Catalyst oxidation apparatus, Direct combustion apparatus, and Heat storage combustion apparatus) Combustion apparatus

Substance name	Type	Air Volume	Removal%
		m3/min	
IPA, etc.	Direct combustion	300	98<
butyl acetate and others	Catalytic oxidation	50	98<
PGME, PGMEA, etc.	Direct combustion	150	98<
MEK, Methanol, etc.	Direct combustion	70	98<

(Catalyst oxidation device, direct combustion device, and heat storage combustion device) Combustion equipment

Catalytic deodorizing furnace

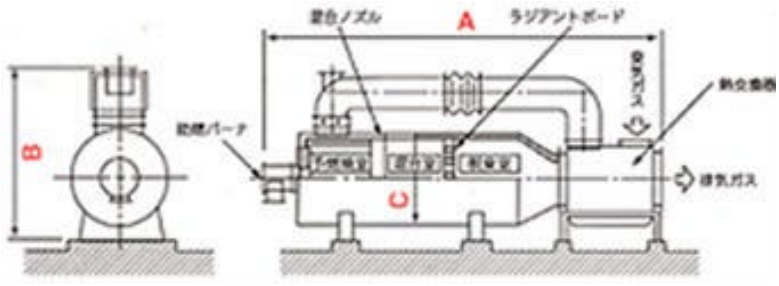


We also manufacture model furnaces.

Type	Processing gas m3N/min	A	B	C
TC-020	20	1,290	1,850	2,920
TC-030	30	1,370	2,050	3,120
TC-050	50	1,450	2,200	3,260
TC-070	70	1,670	2,350	3,515
TC-100	100	1,750	2,550	3,825
TC-150	150	1,980	2,840	3,980
TC-200	200	2,150	3,140	4,450
TC-300	300	2,450	3,800	4,650
TC-400	400	2,750	4,200	4,705
TC-500	500	2,850	4,600	5,210

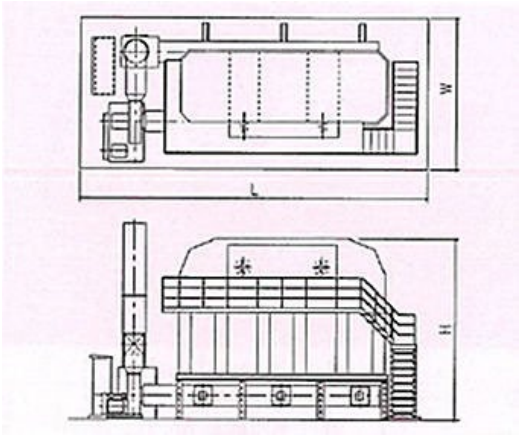
(Catalyst oxidation device, direct combustion device, and heat storage combustion device) Combustion equipment

Direct combustion deodorizing furnace



We also manufacture model furnaces.

Thermal storage combustion equipment



Processing air volume m3N.min	Required heat quantity kW	Dimension table (mm)			Weight Ton
		L	W	H	
15	17.5	4,200	2,100	3,600	4.7
30	33.7	5,500	2,350	4,000	6.5
50	57	6,100	2,900	4,650	8
100	112.8	8,900	3,300	6,000	19
200	226.7	11,000	4,600	6,200	33
300	339.5	12,500	5,800	6,600	45
500	556.3	14,500	7,100	7,000	74
750	850	18,000	8,300	7,200	100
1,000	1,132.5	19,000	9,200	7,400	120