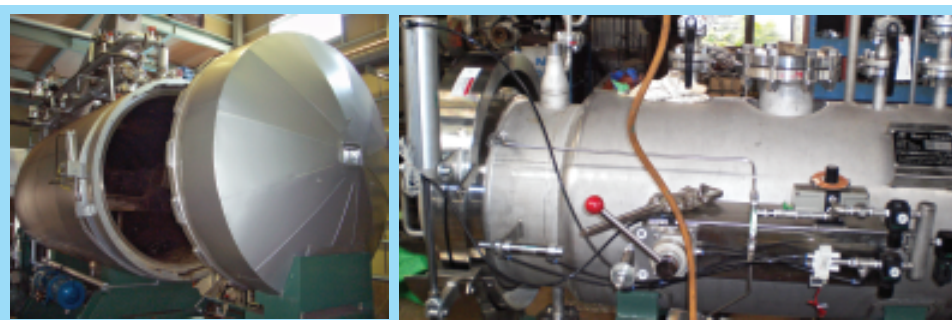


「HY-200/5000/10000/15000 specification」

Form	HY-200J	HY-5000J	HY-10000J	HY-15000J
Effective Capacity (L)	200	5,000	10,000	15,000
Throughput (L/batch)	100	2,500	5,000	7,500
Power Consumption (kw/h)	10	30	50	70
Operating Pressure (Mp)	MAX 3.0			
Operating temperature (°C)	MAX 230			
Equipment composition	Reactor 1set Boiler 1set			
Heating Pressurization system	Steam			

- ※We are preparing for the boiler which uses product from this machine as fuel.
- ※About capacity, after consulting with a customer, we design and manufacture the optimal thing.
- ※Please ask about details.
- ※Pretreatment system becomes another estimate.



#### Business line

- Manufacturing and selling of Plastic to Oil machine
- Manufacturing and selling of waste oil property modification machine
- Manufacturing and selling of waste cooking oil property modification machine
- Manufacturing and selling of agricultural use waste vinyl film recycling machine
- Manufacturing and selling of Hydrothermal Treatment machine
- Manufacturing and selling of unused-resources recycling machine

※Details may change without prior notice

Development and Manufacturer

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SE1001

CATALOG

CATALOG

NEXT GENERATION SYSTEM

Realization of Appropriate Treatment and Recycling of an unused resource.

# Hydrothermal Treatment machine

## HY-200/5000/10000/15000



 SHINKO TECNOS CO.,LTD.

# Environment Friendly – To Realization of Cycloid Type society

Hydrothermal Treatment machine HY-200/5000/10000/15000 which realizes appropriate treatment and recycling of an unused resource.

## Outline

### About Hydrothermal Treatment

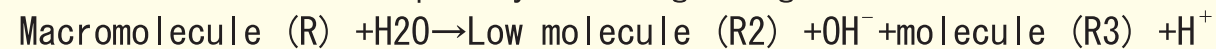
It is a treatment method which reacts material with high temperature · high pressure steam (Max230°C, 3Mp) inside the reactor. After 30min treatment, a germ free and useful output can be obtained.

Furthermore, dry processing can perform within the same machine.

### Reaction inside the reactor

Inside the reactor, macromolecule material reacts with high temperature · high pressure steam and disintegrate to low molecular. This reaction is called as Hydrolysis reaction.

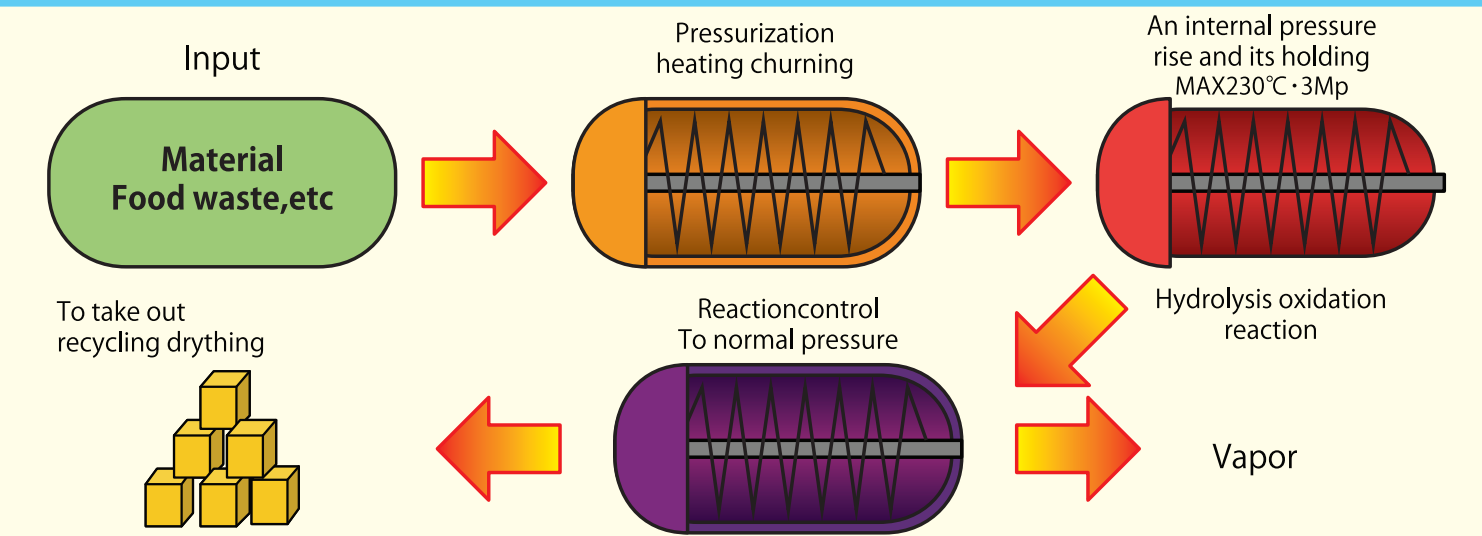
The water molecules which are contained in steam of 230°C, 3Mp are in the state of being very easy to cause a hydrolysis reaction. For this reason, organic matter in the material is quickly disintegrating.



If a decomposition reaction progresses, it will be decomposed into the constitutional unit.

EX. Protein → Peptide → Amino Acid      Cellulose → Polysaccharides → Glucose

## Outline of processing



### In order to use for multiple purpose

Hydrothermal Treatment machine is new technology. In order to use for multiple purpose, an actual proof experiment is conducted with a test prototype. At the moment, our customer is using this machine for medical waste, a food residual substance, vegetable waste, etc. and range of use is expanding. (For example, it is used for proving test for radiation removal in Fukushima Japan and got good result.)

## Merit of Hydrothermal Treatment machine

Economical efficiency



Alleviation of an environmental impact

### Hydrothermal Treatment machine can be used for various types of unused resources (waste).

<Materials for processing>

Livestock feces and urine: Chicken droppings, Cow dung, Pig droppings

Swill garbage: Waste luncheon, waste vegetables, waste fruits, waste fish meat, fish work residue, etc.

Wood-base: Wasted wood from construction, thinner timber, pruning material, scrap wood from saw mill.

Other: High moisture semi biomass

### Processing in a short time is attained

With a Hydrothermal Treatment machine, processing is complete about 30min and can produce high quality product such as fertilizer and solid fuel.

### It is an environmental friendly processing method.

Since “Water” is used for hydrolysis reaction, this treatment can suppress to occur dioxin and NOx.

## Comparison of the present recycling

Method	Carbonization	Compost	Biogas	The conventional drying	Rare Steam	
Outline	To remove moisture and volatile matter content in raw material by heating materials.	Manufacture a compost by work of a microorganism.	To change the organic matter in materials into methane by work of a microbe.	To remove moisture in raw material by heating.	Manufacture an useful output by heat under pressure.	
Output	Carbide	Compost	Flammable gas	Fertilizer and feed	Liquid fertilizer, fertilizer, feed, and solid fuel	
Purpose	A soil improvement agent, fuel, a deodorant, a thaw agent, fertilizer	Fertilizer	Fuel	Fertilizer and feed	Liquid fertilizer, fertilizer, feed, Fuel	
Feature	Process	It is constituted by a carbonization furnace and waste gas processing equipment.	• Management of the moisture · pH of a product is important. • Deodorization of instifutious is important.	• A mass fermentation tank is required. • Processing of 11 substances gasified is required.	• It consists of a drier and deodorization equipment.	It consists of main-body, exhaust-heat recovery and deodorization equipment.
	Product	A use of broad as charcoal	• Stink remains	• Power generation and heat supply are possible as fuel.	• There is a stink with a product. • Effective as fuel by a product.	• Effective as feed. • High-value-added fertilizer is possible. • Effective as a coal substitute.

Regarding dechlorination

We receive the order of the dechlorination machine to process vinyl chloride series material.