

Organic Magnetic Pyrolysis Energy Conversion Equipment

〈 MG22Eh 〉

Introduction of this equipment saves your cost and leads to reduction of green house gases and protection of the environment.

This equipment enables effective use of organic resources and resource recycling.



MG22Eh-5MR

Standard specification

Furnace internal volume 5.0m³



MGRT-200

Exhaust self-combustion reactor



MG22Eh-2MR

Standard specification

Furnace internal volume 2.0m³

Product features

Using organic matter as fuel, this equipment produces steam, can be used for power generation, water heating.

1. This equipment decomposes and reduce volume of organic matter only by magnetic and heat inside the chamber. The decomposition heat creates steam.
2. Enables 24/7 operation. utilizing this technology contributes fossil fuel problems.
3. This equipment has passed environmental standard by suppressing the emission of carbon dioxide and dioxins.
4. The input organic matter will be reduced of its volume, and remaining harmless ash (MG powder) can be used effectively. (Only when harmful substances are removed prior to input.)
5. High durability performance, because of low temperature decomposition and small temperature change during operation.
6. Decomposition is automatically controlled of its temperature inside the equipment. Furthermore, operation of motorized door is just one press of button.

Subject organic matter

The energy source is general organic matter.

- Organic matter from business / cardboard, paper, dried livestock manure, dried food waste, construction waste, etc.
- Organic matter from wood / wood from thinning, disaster damaged lumber, dried pruning wood, dead wood, sawdust, etc.
- Organic matter from agriculture / rice husk, straw, agricultural polyethylene, etc.
- Organic matter from chemical industry / PET bottle, vinyl, plastic, artificial fibers, paper diapers, etc.

(Excluding vinyl chloride)

* If the water content exceeds 30%, please dry, or mix with other dried materials to adjust. (Rice and wood materials with high carbon (C) content are effective.)

Main points of operation

1. Check the water valve is open. (Please be careful of not heating the tank without water in it.)
 2. Check the temperature of the main unit. Turn on the main power supply. (Settings of temperature are preset at the time of installation.)
 3. Organic matter put into the input chamber is dropped onto the pyrolysis chamber and pyrolyzed. The maximum input volume is about 70%~80% of the bulk. (2MSB is 1.4-1.6m³/day, 5MSB is 3.5-4.0m³/day.)
 4. Organic matter will loading into equipment approximately every 6 to 12 hours, 2 to 4 times a day, up to 80% of it capacity. * State of decomposition and reduction of organic matter varies depending on the type.
- For daily maintenance, remove the residue (MG powder) once every 2 days and clean the flue once every 1-2 weeks.

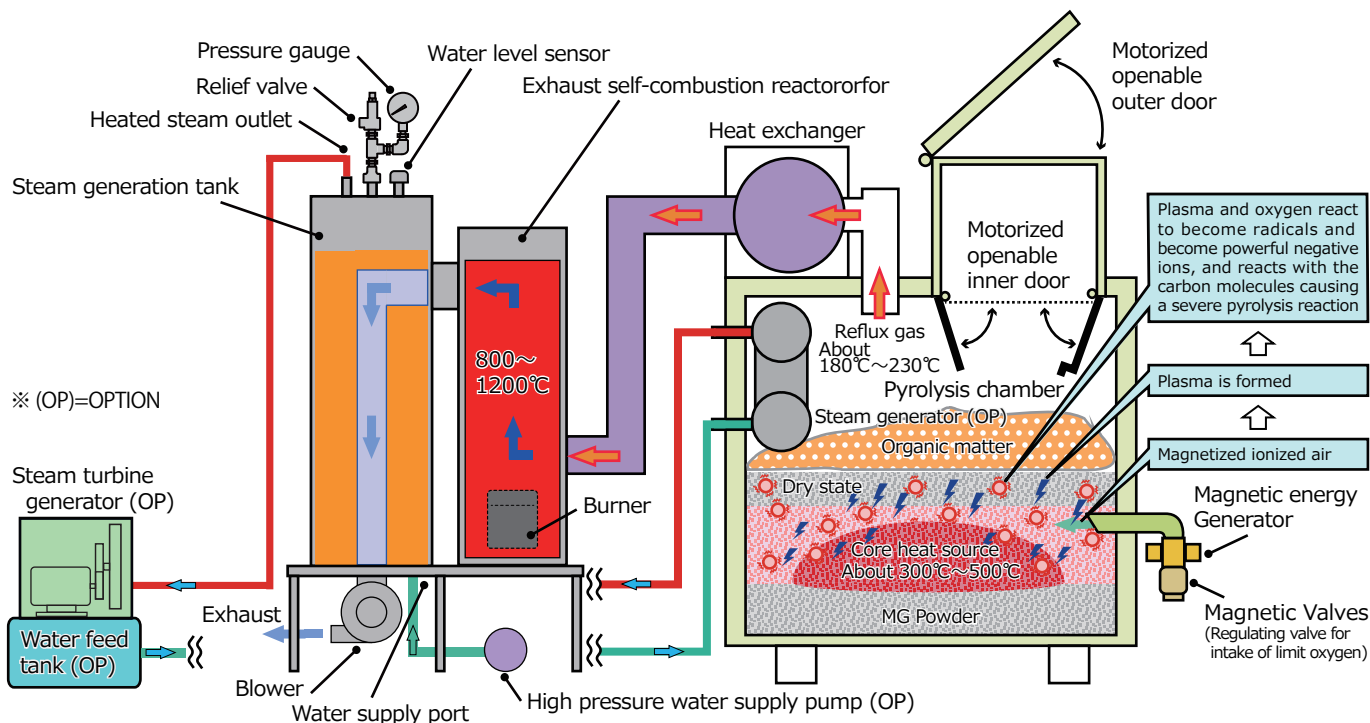
Principle of pyrolysis

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Utilization of decomposition heat derived from organic matter pyrolysis.

1. When raising the temperature of air blocked pyrolysis chamber, then exhaust flow occur and that causes negative pressure inside.
2. In this negative pressure state, when the conditions inside chamber is under the setting temperature, air will flow into inside the chamber.
3. This air passes through the magnetic field in the strong magnetic generator, and becomes plasma state when the temperature in the pyrolysis chamber is around 400°C.
 - * Plasma: A state in which molecules consisting of the gas are ionized, that is, a state in which positively charged ions and negatively charged ion fly around freely.
4. Oxygen in dilute air reacts with this plasma and becomes radical and become powerful and active negative ions.
 - * Radical: Surrounded by electrons in pairs, atoms and molecules electrons are usually stable. In an unpaired state of this electron is called radical, and in this state, unpaired electron takes active reaction, trying to deprive another other atoms and molecules of electrons in order to be stable.
5. These negative ions react with the organic matter loading into the pyrolysis chamber, causing intense pyrolysis reaction at the contact surface and oxidative decomposition of organic matter even without fuel.
6. At the same time, action of this negative ions will react with harmful substances and the residue MG powder becomes harmless and turns into a stable substance.
7. Exhaust gas is treated in gas purification scrubber or reactor, so that the exhaust gas become within environmental standard values.

Power generation flow



Product specifications

Operating specification

1. Automatic operation by electric control
2. Maximum input MG22Eh-5MR : MAX 4.0m³
MG22Eh-2MR : MAX 1.6m³

It is possible to feed continuously up to the maximum from the second time

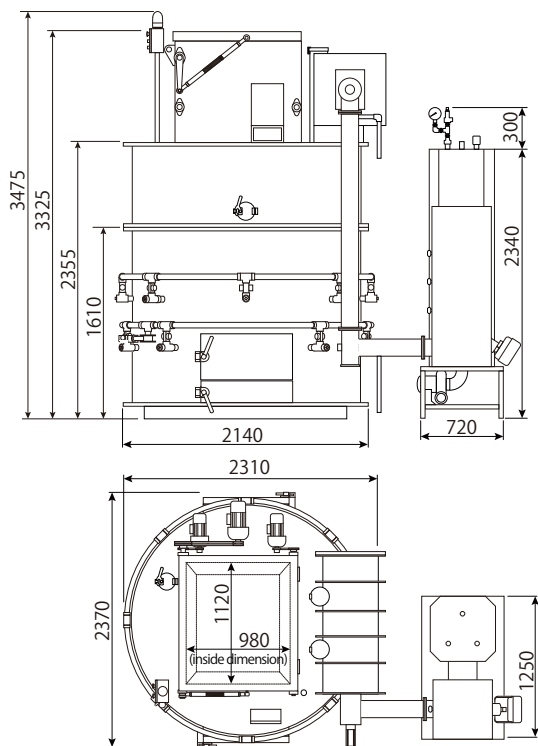
Specification / Rating

1. Gross weight MG22Eh-5MR : about 3200kg
MG22Eh-2MR : about 1800kg
2. Size MG22Eh-5MR: W 2370mm L 2310mm H 3475mm
MG22Eh-2MR: W 1840mm L 1890mm H 2550mm
3. Power requirement Single phase 200V 0.4~1.0kw/h

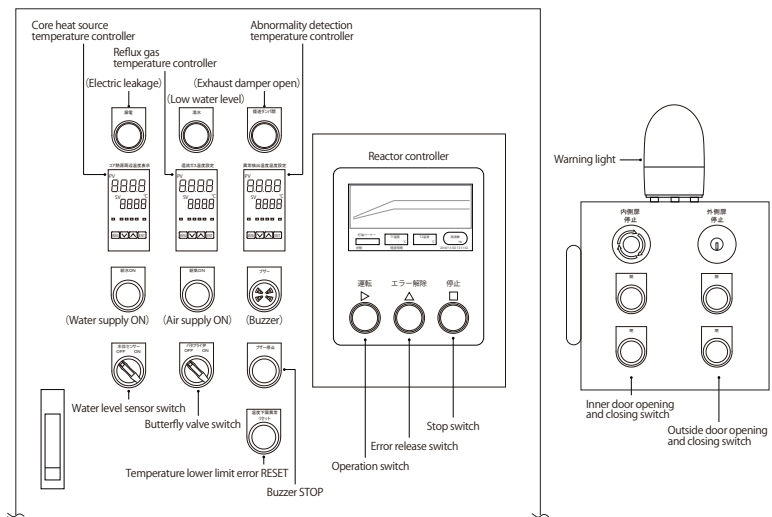
4. Exhaust self-combustion reactor MGRT-200
Automatic feed water (Outflow steam = Steam pressure 0.3 - 0.5Mpa)
Safety valve operating pressure 0.3 - 0.4Mpa
Size W 1250mm L 720mm H 2640mm
5. Operation control Automatic control after filling organic matter
6. Magnet holder MG22Eh-5MR : 16
MG22Eh-2MR : 8
7. Indoor installation specification
Body external temperature less than 50°C
8. Entry door Outside door, inner door electric opening and closing
9. Operating temperature automatic adjustment
(Setting operating range Normal temperature -300°C)
10. Intake of ionized air
(Pyrolysis chamber=Automatic temperature control)
11. Accessories : Steps

Option (OP)

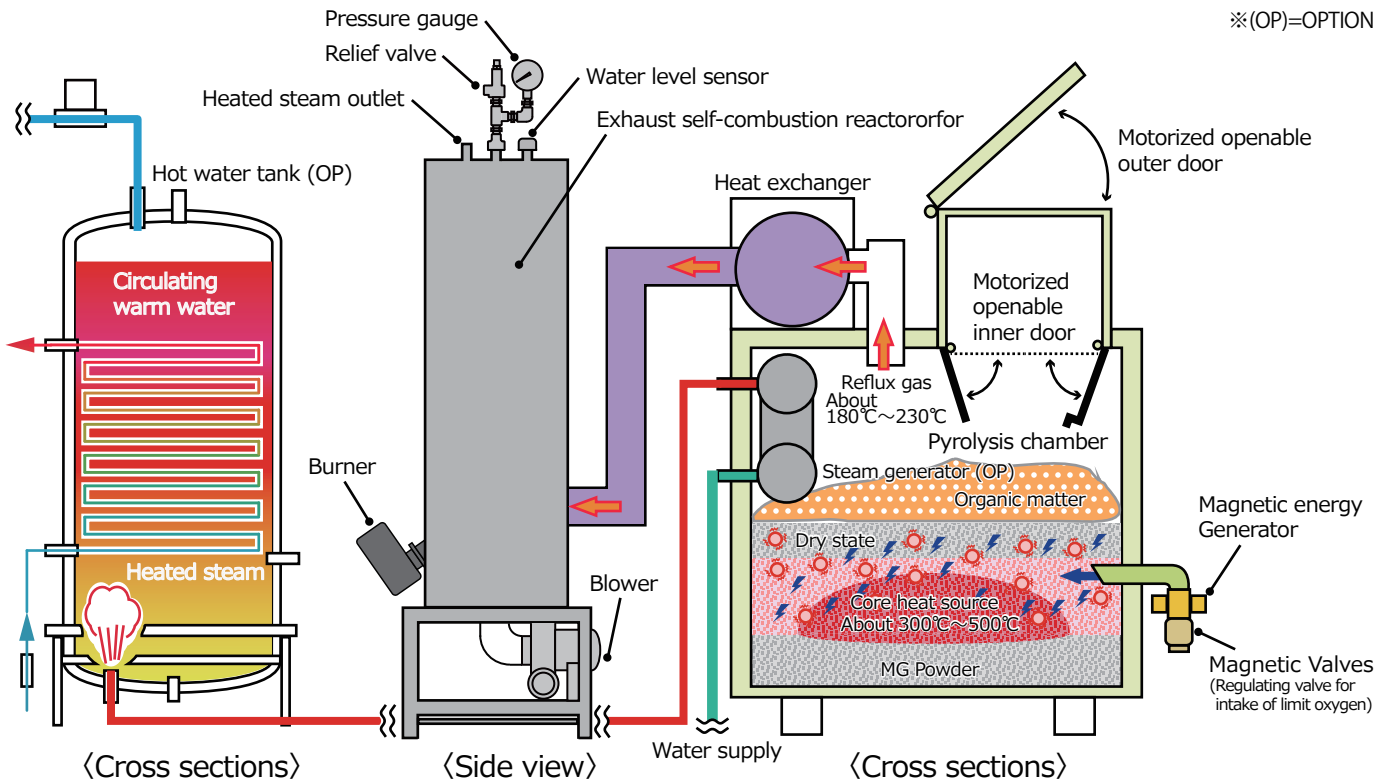
Inside steam generator / High pressure water supply pump / Dryer / Lifter / Hot water tank (1500L) / Steam turbine generator (2Kw/h)



Control panel



Water heating flow



Installation location

Please contact us.

1. Concrete casting floor, more than 10cm thickness. Open space at least 5m height. Width 3m x depth 4m of carry in space with security lock.
2. Related facilities: Electrical equipment (Single phase 200V), water supply and drainage sanitation equipment, air intake and exhaust facility.

Installation support

We can offer providing total services on installation, design for MG22 and relating equipment by our certified staff.

1. It is possible to arrange to suit customer's installation space and existing facilities such as boiler.
2. It is possible from designing to construction and management collectively, including related equipment of this equipment.
3. At the time of installation, we dispatch an appointed engineer for a certain period and instruct the effective operation method to the operation staff.
4. We will also support cooperation with local related contractors who are operating existing facilities and operating them.

Maintenance support

Maintenance with our technical service network.

1. We offer maintenance contract to provide necessary maintenance and operational supports with contract fee.
2. We will provide consultation on efficient operation and other questions.
3. Replacement of consumable parts will be conducted with service fee.
4. We also provide consultation about environmental issues and management issues related to this equipment with an additional cost.

For any questions on this product, please contact the following contact.

Manufacturer

日省エンジニアリング株式会社
Nissho Engineering Co., Ltd