

QUEMA NEW DORA 21

All-Purpose Small Incinerators New Quema Dora 21 Series



S-21
SW-21
C-21
MSL-21
MS-K
M-D

New Quema Dora 21 Series incinerators are compliant with the Act on Special Measures concerning Countermeasures against Dioxins

QUEMADORA Co., Ltd.

Let's think seriously about the incineration of waste

The 21st century and global environmental problems. We should personally dispose of waste through a means that does not pollute the environment to leave a clean and healthy environment for our grandchildren. Clearing dioxin emission standards has become a social issue today, and companies and organizations are being called on to fulfill this social responsibility.

Features Technology that enables the coincineration of diverse waste

From kitchen waste to miscellaneous refuse

It is now possible to coincinerate waste with high water content and general waste (including some plastics) which was not possible with former small incinerators.

Reverse combustion, high combustion, and recombustion methods to eliminate dioxins (PAT. 2735911)

Incineration is possible at dioxin decomposition temperature (800°C or higher) without the use of an afterburner utilizing our own auxiliary burning unit and smokeless incineration unit. (Furnace construction type)

Enables fixed quantity loading and additional loading during incineration

Easy to use and economical

It is easy to use and very economical. Perfect combustion is realized through reverse combustion, high combustion, and recombustion. Waste disposal costs can be cut back as the amount of ash is significantly reduced.

Measured Quema Dora dioxin concentration values (reference values) November 28, 2001

Dioxin concentration (within exhaust gas) (Reference value: 5ng-TEQ/m³N) Dioxin concentration (within collected dust and ash) (Reference value: 3ng-TEQ/g) Dioxin concentration (within incineration ash) (Reference value: 3ng-TEQ/g)

0.22
ng-TEQ/m³N

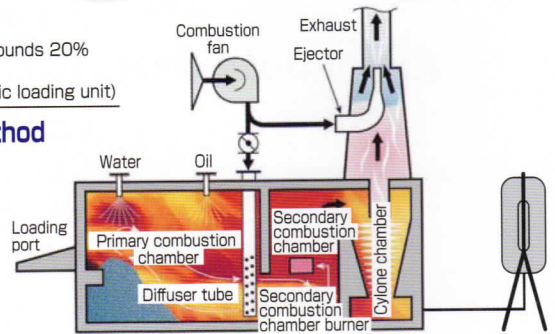
0.0014
ng-TEQ/g

0.00000064
ng-TEQ/g

*Reference combustion conditions:
paper products 10%, plastics 30%,
food and alcohol waste 40%, coffee grounds 20%
*Measured model:
New Quema Dora MN-21 (with automatic loading unit)

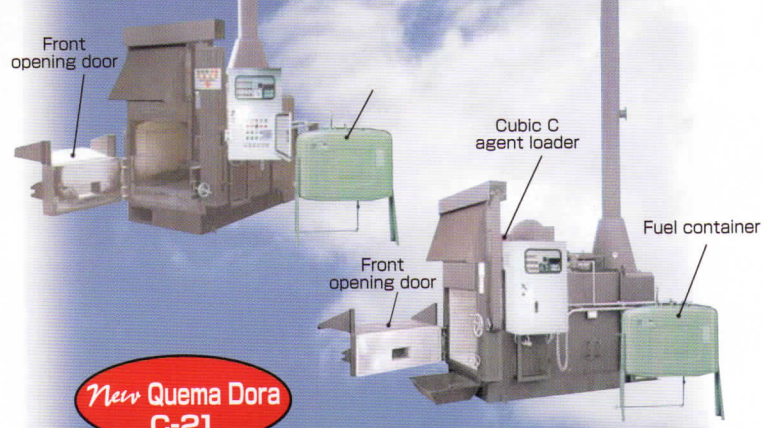
Proprietary combustion method

Quema Dora's perfect combustion system economically achieves perfect combustion without an afterburner by automatically reburning exhaust gas in the combustion chamber through our proprietary reverse combustion and recombustion method. (PAT. 2735911)



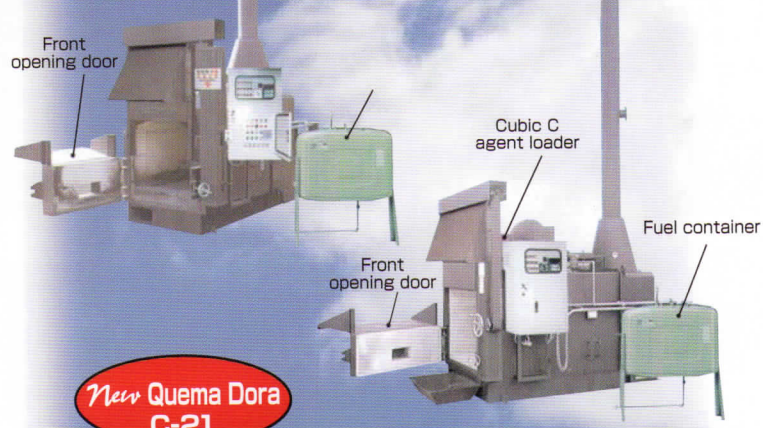
New Quema Dora S-21

Front opening type that can accommodate oversized trash and a large amount of refuse



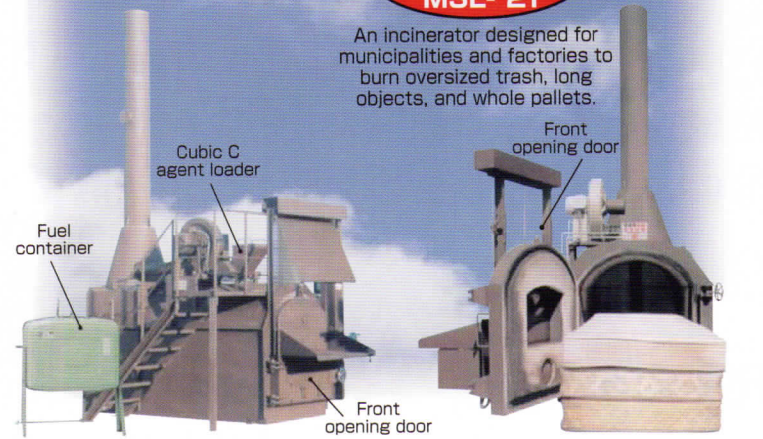
New Quema Dora SW-21

Labor shortage issues are resolved as waste can be loaded in pallets, and it comes fully-equipped with dioxin counter-measures (pallet-dedicated furnace)



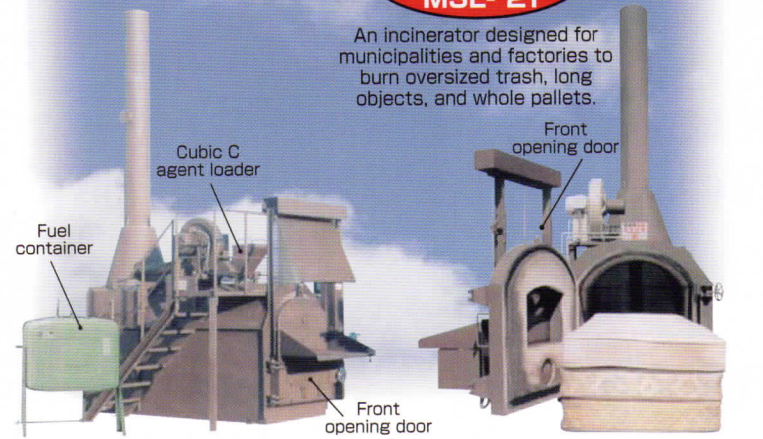
New Quema Dora C-21

An incinerator designed for municipalities and factories to burn oversized trash, long objects, and whole pallets.



New Quema Dora MSL-21

An incinerator designed for municipalities and factories to burn oversized trash, long objects, and whole pallets.



New Quema Dora standard features to realize safe and clean burning

Automatic push-in unit with double doors

This device enables the safe loading of a fixed quantity of waste into the furnace to clear reference values for dioxins and ash dust generated during the combustion of waste.



Continuous temperature recorder

The new law dictates that dioxins must be decomposed through high temperature incineration at 800°C or higher. This measuring device is indispensable in verifying high temperature incineration.



Automatic internal temperature controller

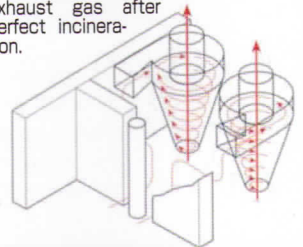
The waste being incinerated is sprinkled with water when overheated. This device maintains the temperature within the furnace at an optimal temperature.



Automatic temperature controller

Realizes odorless, smokeless, and dustless incineration

A double-cyclone dust collection device that utilizes heat-resistant casters removes collected dust and eliminates smoke and odors from the exhaust gas after perfect incineration.



Cubic C loader to reduce toxic substances within combustion gas

Prevents the emission of hydrogen chloride gas and heavy metals that are the cause of dioxins. Jointly developed with Osaka Prefecture (PAT. 2047014)



OPTION

Crushing and loading unit (for MSL-21)



Municipality Series

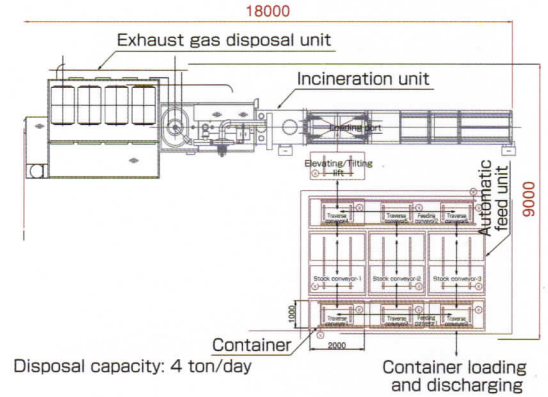
- Are you having problems obtaining resident consent over the installation location for the expansion and concentration of a large incineration facility?
- Are you troubled by the rise in waste collection and transport costs?
- Are you troubled by the rise in waste disposal costs?
- Are you concerned about extending the life of the final waste disposal site?
- Are you troubled by the rise in recycling costs for plastics and papers?

Why not consider disposing of waste at a small incineration facility that enables you to dispose of local refuse locally? Quema Dora exhausts very little dioxins and can efficiently dispose of general waste, oversized trash, and waste oil, among others.

We also propose a PFI

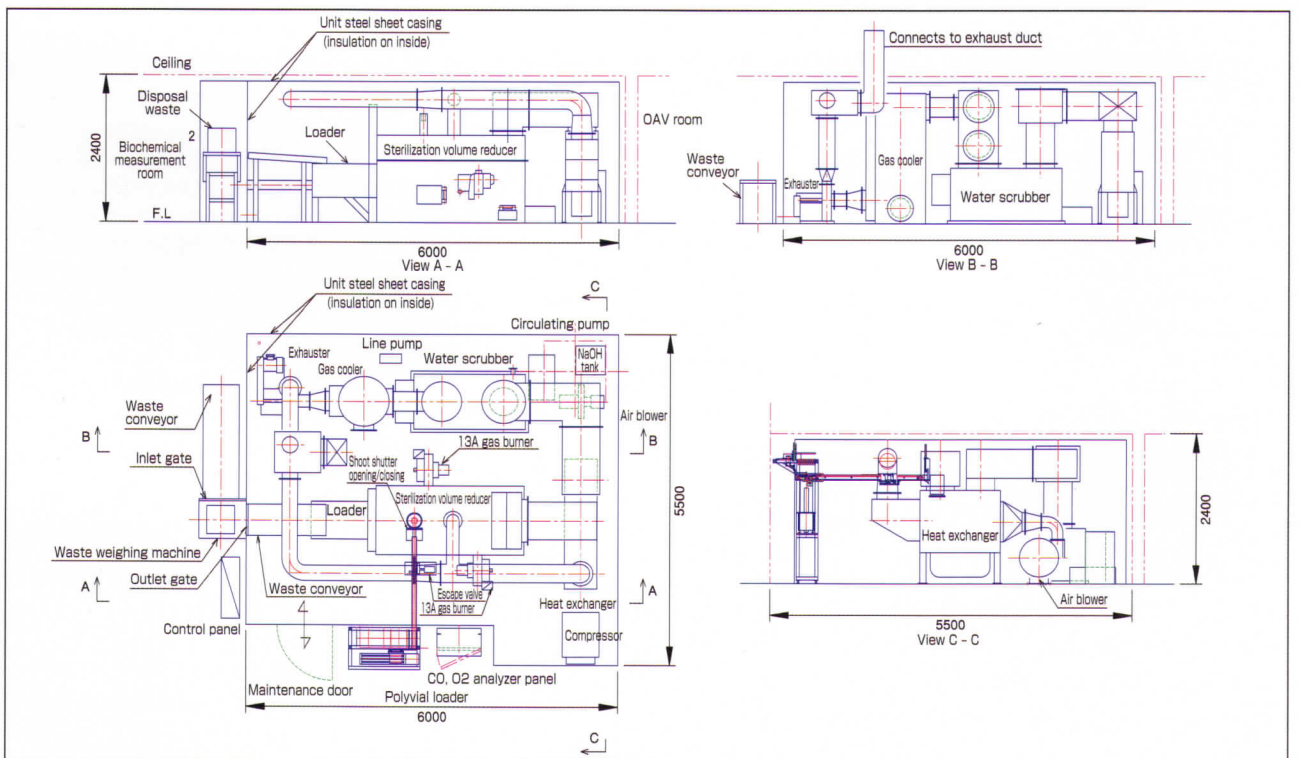
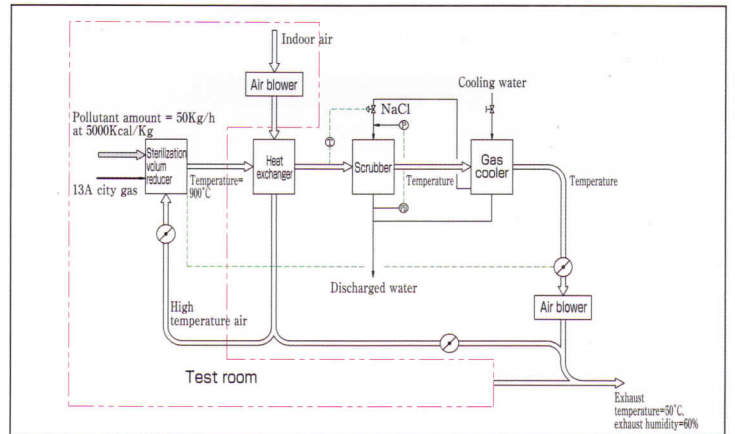


■ Quema Dora Incinerator Facility: Reference Plant Layout Drawing



Low-level radioactive waste and infectious medical waste series

- There is no leakage of radioactive materials or infectious materials as the outdoor, indoor, unit-interior, and sterilization volume reduction unit are successively put under negative pressure.
- A mixture of waste including small animals, straw mulching, waste fluid, and containers can be coincinerated.
- All units can be stored indoors. (Exhaust gas is emitted outdoors after passing through a HEPA filter)
- As disposal can be performed at the waste generating plant, there is no risk of secondary contamination during transport.



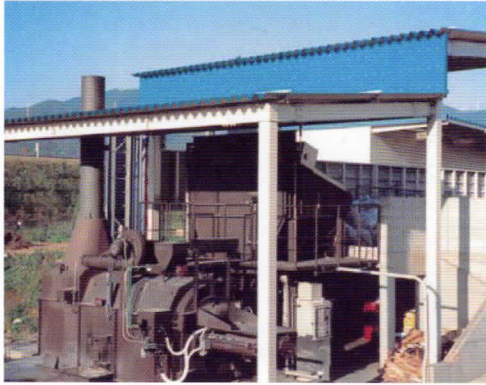
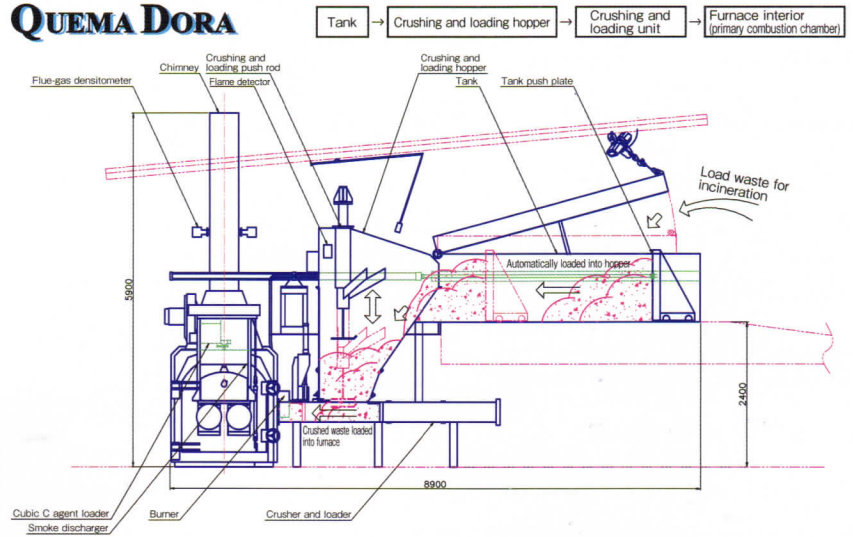
Kitchen Waste Series

- Are you concerned about how to dispose of food waste?
- Are you concerned about how to dispose of expired and returned goods?
- Are you troubled by the rise in industrial waste disposal costs and denial of waste acceptance?

Quema Dora emits only a small amount of dioxins and can efficiently dispose of kitchen waste such as food and animal waste.

Cost savings of 370 million yen in 10 years (trial calculation)

Quema Dora Flow Chart



Photos of waste at dairy plant



Paper cartons



Milk cartons



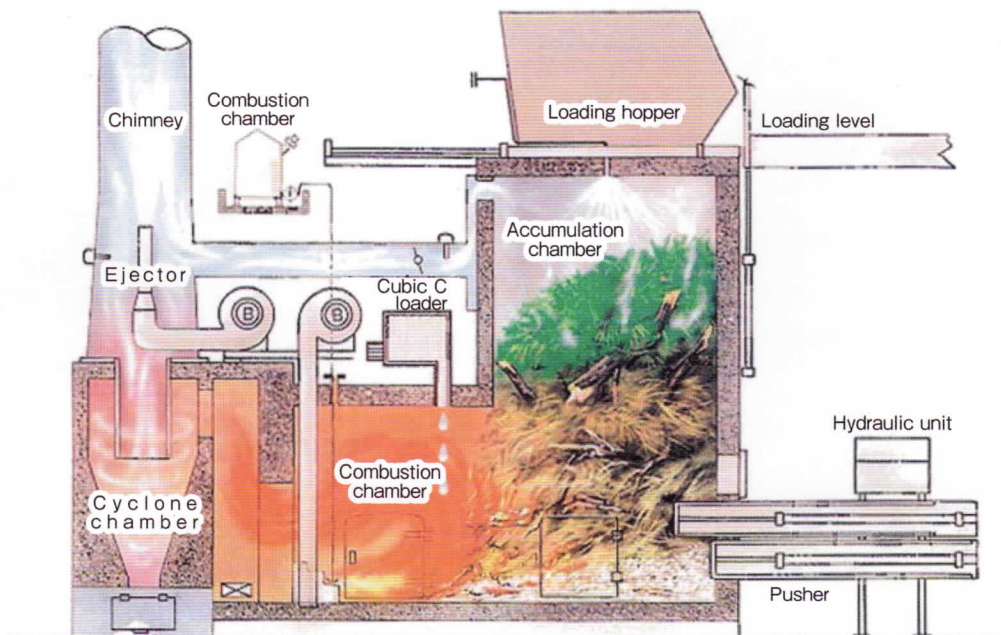
Sludge



Coffee grounds

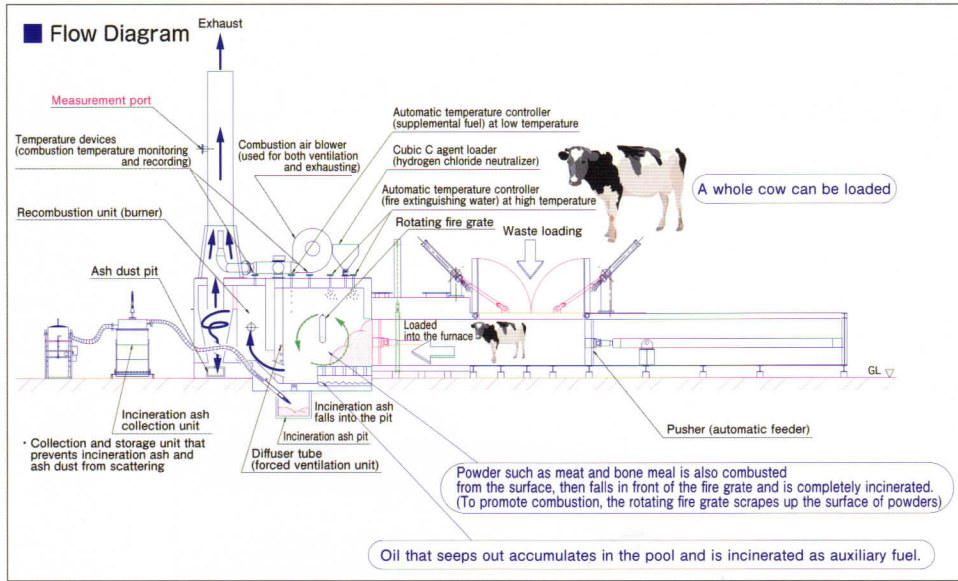
Grass, Wood Waste, Livestock Manure Series

This incinerator is equipped with a large hopper that enables a two-ton dump truck to directly unload waste such as trees and shrubs, dry grass, bentgrass, miscellaneous kitchen waste, and livestock manure. To perform incineration more perfectly, a pusher automatically feeds waste into the combustion chamber, reducing waste residues. It demonstrates superior capabilities far exceeding reference standards utilizing a damper unit to extract moisture from the drying chamber and a double cyclone dryer that easily clears ash dust regulation levels. It is also practical and economical as operation is simple and reliable and fuel costs can be kept down to a minimum through superior fuel-efficient design.



Cattle and Animal Series

- Are you concerned about loading a whole cow or a cow after it has been slaughtered (blood and parts)?
- Are you troubled by the rise in running costs?
- Are you troubled by the rise in industrial waste disposal costs and denial of waste acceptance?
- Are you concerned about incineration capacity due to an increased volume of dead cattle for disposal?



X-21-005-23

Quema Dora emits very little dioxins and can efficiently dispose of a large volume (enables 24-hour continuous additional loading) of living matter, from a whole cow to the animal residue after slaughter.



Waste for disposal (directly loaded from truck)

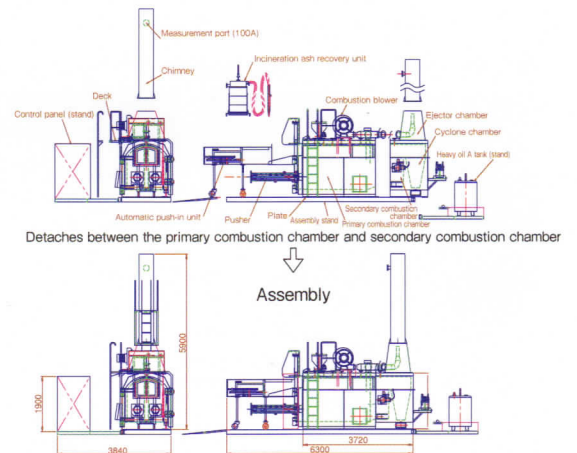


Liquids such as blood and guts within the container are also loaded

Bird Flu Series

- In an avian flu outbreak, infected livestock can be incinerated on-site without relocating them.

This is a disassembly, relocation, on-site assembly type incinerator as a countermeasure for the avian flu which is breaking out around the world. The spread of the virus can be prevented as infected birds do not need to be relocated from the outbreak site. The incinerator weight can be dispersed through disassembly, enabling it to be transported in two 10-ton trucks. In so doing, the incinerator can be transported along narrow mountainous roads and to chicken ranches that are only accessible by bridges with weight restrictions. This incinerator has proven success as a BSE countermeasure, and the amount of fuel used can be minimized by applying the high efficiency combustion achieved through our patented reverse combustion, recombustion, and high combustion method.

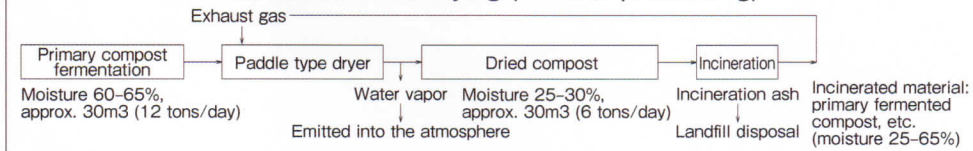


Cattle Manure, Pig Manure, Compost Drying and Incinerating Series

- Are you concerned about the disposal of composted pig manure?
- Are you having trouble acquiring saw dust and troubled by its rise in price?
- Are you having trouble with composting?

Pig manure is incinerated, then dried out utilizing the waste heat (thermal recycling). As the dried pig manure has been sterilized at high temperature, it can be reused as a substitute for saw dust. The amount of saw dust purchased is drastically reduced, composting work is mitigated, and a high temperature sterilized bedding is formed.

Flow chart for cattle manure and pig manure (mixed with saw dust) incineration and drying (24-hour processing)



Primary fermented pig manure (moisture 60-65%)



Dried with high performance dryer



Dried pig manure (moisture 25-30%)

Incineration ESCO Business

Kyoto Protocol compliant incinerator that significantly reduces CO₂ emissions

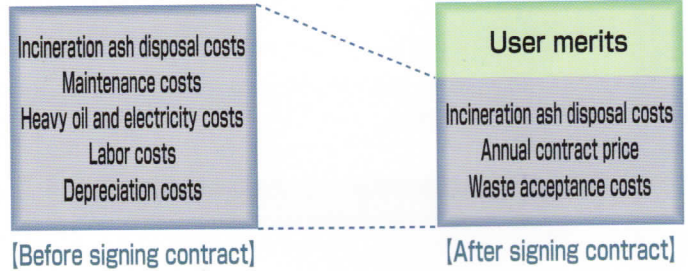
New proposal Guaranteed reduction in industrial waste costs

ESCO is an abbreviation for Energy Service Company and refers to a business that provides comprehensive services such as the technology, facilities, personnel, and capital required for energy-saving. It generally refers to a cogeneration type power supply and heat source supply utilizing private power generation.

Future developments

We have begun an incineration PFI for municipalities and local governments on remote islands (of up to 100,000 people).

Status after contract signing



Primary specifications

	S-21	SW-21	C-21
Incineration capacity Kcal/H	170,000 Kcal (general combustible waste)	300,000 Kcal - 350,000 Kcal (general combustible waste)	500,000 Kcal - 650,000 Kcal (general combustible waste)
Grate area m ²	0.78	1.76	1.83
Combustion chamber capacity m ³	0.70	1.63	2.09
Primary combustion chamber unit	Fire extinguishing water equipment to prevent overheating, blower air volume controller, ignition port		
Secondary combustion chamber burner unit	100,000 Kcal		150,000 Kcal
Overheating prevention device	Automatic water spray nozzle, solenoid valve for automatic water spray, valves		
Dry-type dust collector mm	Cyclone (400 φ × 1007) × 2 units		Cyclone (530 φ × 1195) × 2 units
Furnace outer dimension mm	W1899 × L4553 × H2180	W2287 × L4846 × H2180	W3350 × L5236 × H2720
Waste loading port dimensions mm	W730 × H420	W1140 × H480	W1040 × H480
Exhaust unit	Ejector mm: 807 × 512 × 348 φ - 700H Chimney mm: 260 φ 2872H (total height 4995)		Ejector mm: 1050 × 600 × 480 φ - 800H Chimney mm: 380 φ 3000H (total height 5445)
Control panel	Automatic temperature controller, continuous temperature recorder, etc.		
Power supply (air blower power)	3 phase 200V 5kW (2.2kW)	3 phase 200V 6kW (3.7kW)	3 phase 200V 8kW (5.5kW)

	MSL-21	MS-K	M-D
Incineration capacity Kcal/H	700,000 Kcal - 800,000 Kcal (general combustible waste)		
Grate area m ²	1.82	1.64	1.6
Combustion chamber capacity m ³	3.56	3.23	2.0
Primary combustion chamber unit	Fire extinguishing water equipment to prevent overheating, blower air volume controller, ignition port		
Secondary combustion chamber burner unit	200,000 Kcal		
Overheating prevention device	Automatic water spray nozzle, solenoid valve for automatic water spray, valves		
Dry-type dust collector mm	Cyclone (670 φ × 1500) × 2 units		Cyclone (850 φ × 1550) × 2 units
Furnace outer dimension mm	W3410 × L6506 × H2700	W3410 × L6506 × H2700	W2250 × L5156 × H2100
Waste loading port dimensions mm	W732 × H600 (Large: W1300, H1400)	W1058 × H2000	W1488 × H1711
Exhaust unit	Ejector mm: 1300 × 860 × 660 φ - 1000H Chimney mm: 488 φ 2970H (total height 5900)		Ejector mm: 1878 × 1000 × 1338 φ Chimney mm: 700 φ 5862H (total height 9300)
Control panel	Automatic temperature controller, continuous temperature recorder, etc.		
Power supply (air blower power)	3 phase 200V 8kW (5.5kW)		

Design, manufacture, and sales of incinerators and environmental equipment, Disassembly and relocation work

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