Since 1985
KOREA INCINERATOR CO., LTD

HOSPITAL INCINERATION SYSTEM

Small scale incinerator for medical waste (30kg/hr~250kg/hr)
- Pyrolysis incinerator type
- Water jacket incinerator type

Medium scale incinerator for medical waste (250kg/hr~1,000kg/hr)
- Vertical cylinder type

Hybrid Type(Method of acidic gas removal)
- Dry process reactor
- Semi dry process reactor
- Particles of Dust Removal (Bag Filter)

Large scale incinerator for medical waste (1,000kg/hr~3,000kg/hr)
- Stoker type incinerator
- Water jacket fixed grate sloped type incinerator

• Head office. factory :
11B-10L Namdong Industry Complex 326,Seunggicheon-ro, Namdong-gu, Incheon, Republic of Korea
TEL : 82-32-817-3900 | FAX : 82-32-814-0098

• Seoul Office :
E-1504, SK V1 Center, 11, Dangsan-ro 41-gil, Yeongdeungpo-gu, Seoul, Republic of Korea

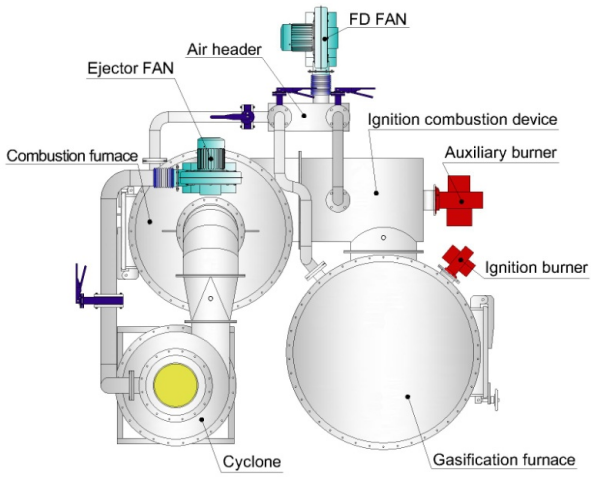
• Homepage : http://www.krico1985.com • E-Mail : krico1985@gmail.com

Small Scale Incinerator (30kg~250kg)

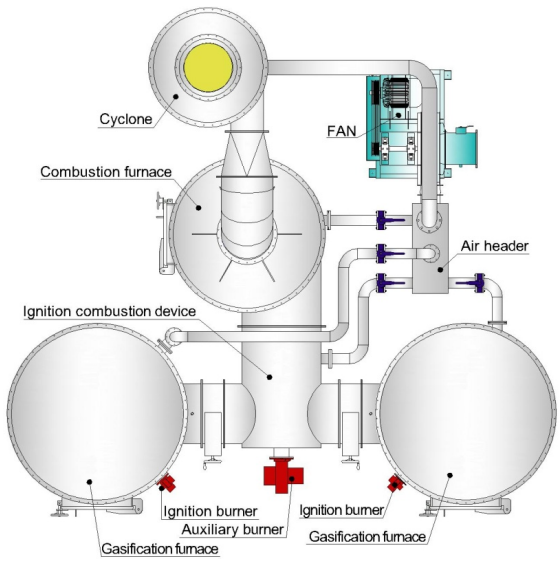
Pyrolysis Incinerator

Principle

Batch feeding pyrolysis incinerator makes partial combustion layer by influx small amount of air than theoretical air. In primary chamber, waste is carbonized by heat from partial combustion layer to be fixed carbon, gases(CH4, CO, H2O) and liquid(Tar). Generated gas is used as fuel in combustion chamber (Secondary). No need other emission control device because flue gas is clean. If waste contains SOx or HCl, need to add additional gas treatment system.



KRH Type (1 Column)



KRHT Type (2 Column)

Key Features

No smoke, no bad smell combustion

- Separated operation of dry gasification pyrolysis furnace gas combustion furnace
  ⇒ Less combustion gas, stabilized combustion, no smoke, no bad smell

Batch feeding method

- Feed waste at once by feeding door
- No need to watch until combustion ended
- Save wage, easy to operate

High durability

- Made by high-quality refractory castable, insulation, steel plate
- Minimize generation of dust than other incineration method by waste to dry distillation gasification with small amount of air

KRH Type (1 Column)

Reference

US Army Hospital, Ethiopia

MUHAS Medical Center, Tanzania

Specification

Specification \ Type		KRH 25	KRH 50	KRH 100	KRH 150	KRH 200
Burn rate(KG/HR)		20~30	40~60	90~120	140~160	190~210
Gasfication furnace (Primary chamber)	Diameter(Ømm)	1,069	1,300	1,732	1,922	1,952
	Height(mm)	1,364	1,652	1,680	1,923	2,360
Combustion furnace (Secondary chamber)	Diameter(Ømm)	909	1,016	1,087	1,262	1,407
	Height(mm)	1,759	2,160	3,387	3,412	3,412
Capacity of fan (kW)	F.D FAN	3.4kW	2.3kW	3.4kW	11kW	15kW
	EJECTOR FAN		2.3kW	3.4kW		
Capacity of burner (kW)	Ignition Burner	0.15kW	0.15kW	0.15kW	0.15kW	0.15kW
	Auxiliary Burner	0.15kW	0.25kW	0.4kW	0.4kW	0.4kW

KRHT Type (2 Column)

Reference

Yekatit 12 Hospital, Ethiopia

RSPAD GATOT SOEBROTO, Jakarta, Indonesia

Specification

Specification / Type		KRHT 25	KRHT 50	KRHT 100	KRHT 150	KRHT 200
Burn rate(KG/HR)		20~30	40~60	90~120	140~160	190~210
Gasfication furnace (Primary chamber)	Diameter(Ømm)	1,069	1,300	1,462	1,732	1,872
	Height(mm)	1,176	1,276	1,772	1,798	1,955
Combustion furnace (Secondary chamber)	Diameter(Ømm)	909	1,016	1,087	1,262	1,407
	Height(mm)	1,759	2,160	3,387	3,412	3,412
Capacity of fan (kW)	F.D FAN	3.4kW	2.3kW	3.4kW	11kW	15kW
	EJECTOR FAN		2.3kW	3.4kW		
Capacity of burner (kW)	Ignition Burner	0.15kW	0.15kW	0.15kW	0.15kW	0.15kW
	Auxiliary Burner	0.15kW	0.25kW	0.4kW	0.4kW	0.4kW

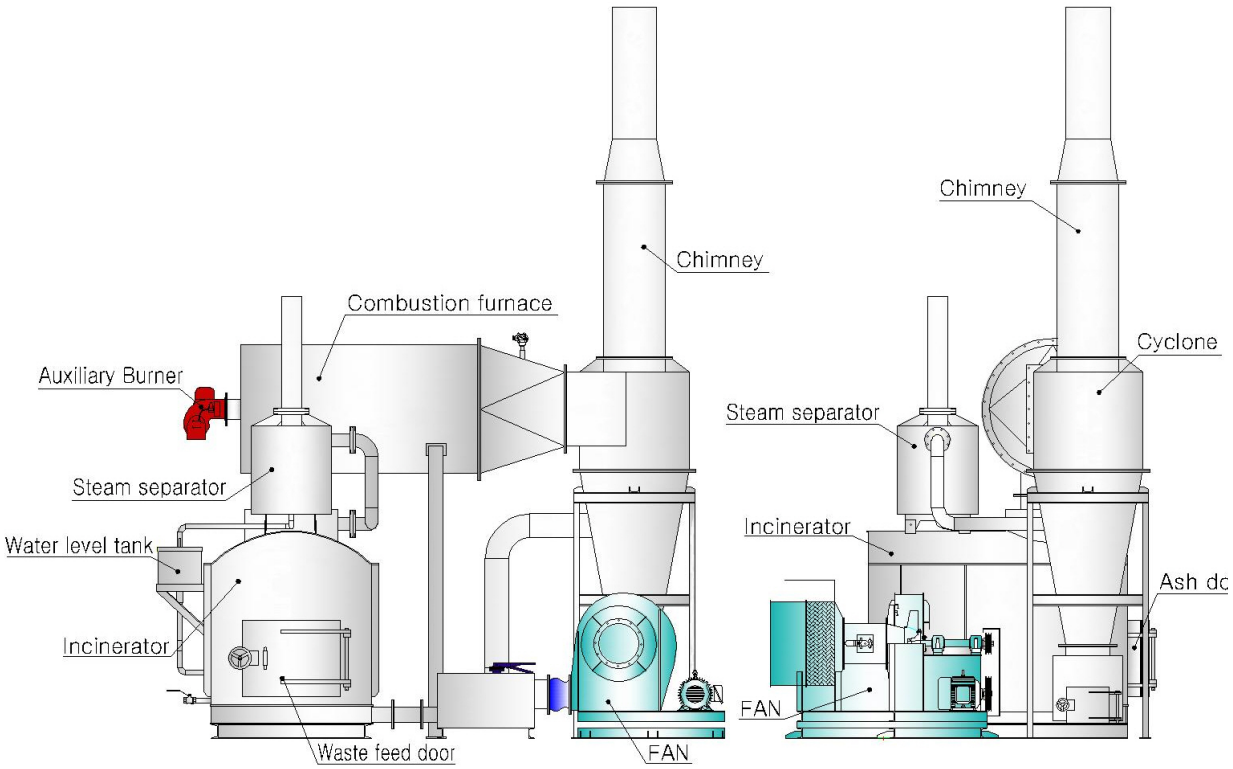
KRWM Type (30kg~250kg)

Small Scale : Water Jacket Type Incinerator

Principle & Key Features

Horizontal parallel flow double steel plate type incinerator.
Use inter-space of inner combustion chamber & outer combustion chamber as water tank to prevent inner wall from high temperature of furnace and able to use hot water. High speed inject air by nozzle to help waste perfect combusted. No smoke, no bad smell incinerator.

Flat fixed-bed type combustion	No need auxiliary fuel
Easy to operate	No smoke no bad smell combustion
Able to continuous incinerate	Remove dust by centrifugal dust collector
To treat toxic gas-generating waste, add-on dry scrubber developed by KRICO	
Perfect combust by sufficient retention time from air injectors inside furnace to generate vortex.	



Specification

Specification \ Type		KRWM 50	KRWM 100	KRWM 150	KRWM 200
Burn rate(KG/HR)		40~60	90~120	140~160	190~210
Incinerator (Primary Chamber)	Width(mm)	1,012	1,212	1,312	1,612
	Height(mm)	1,360	1,905	2,100	2,100
	Length(mm)	1,612	2,444	2,912	3,402
Combustion furnace size		Ø782x1656L	Ø992x1656L	Ø1192x1656L	Ø1324x2656L
Waste feed door		550Wx400H	550Wx400H	650Wx500H	750Wx600H
Ash door		400Wx400H	400Wx400H	500Wx400H	500Wx400H
Capacity of fan(kW)		5.5kW	11kW	15kW	22kW
Capacity of burner(kW)		0.25kW	0.25kW	0.4kW	0.4kW
Water volume(m^3)		0.74	1.5	1.94	2.9

Reference

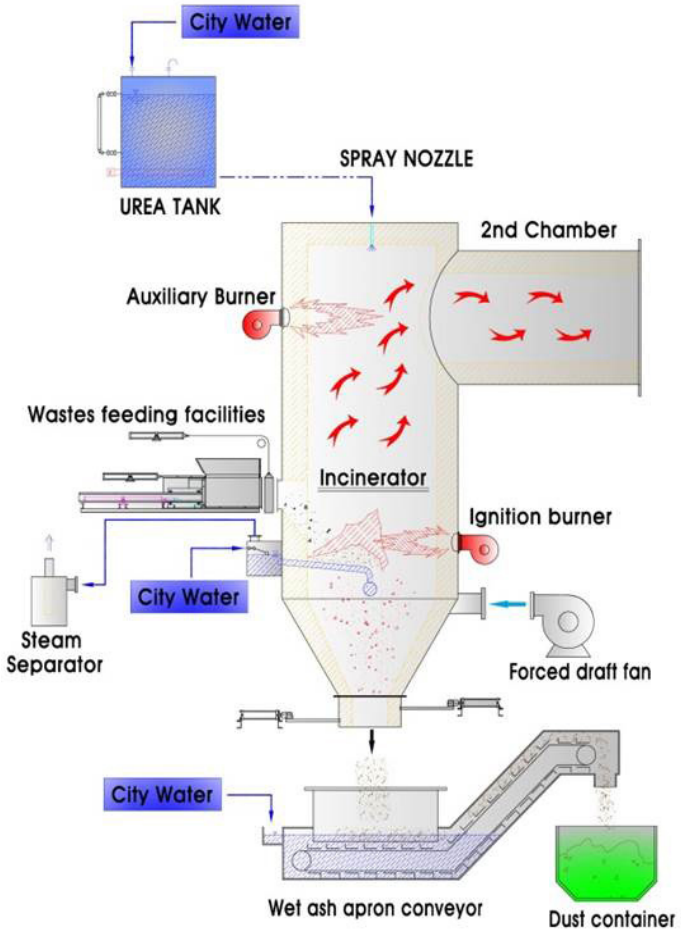
MCM Hospital, Ethiopia

Medium Scale Incinerator (250kg~1,000kg)

Vertical Cylinder Type [KR-V Type]

Principle

- ▷ Vertical cylinder type incineration facility
- ▷ Water tube type stationary(fixed-bed) grid fire grate below fuel inlet to prevent temporary close on combustion surface cause incomplete combustion when fueling
- ▷ Fire grate is grid type punched upper and lower makes waste to be dried and combusted by being exposed into combustion fire and perfect combust remain falling waste by high pressure air from nozzles installed on surface of wall
- ▷ Perfectly combusted ash is release by emission device
- ▷ No effect on perfect combustion when release ash
- ▷ Depends on the amount of ash, release 5 to 10 times per a day
- ▷ Ignition loss is virtually zero and ash is release by apron conveyor



Key Features

- **Ignition loss is virtually zero**
  Fire retardant materials is also perfectly combusted in facility because of long retention time by releasing ash regularly, not continuously.
- **Small space to install**
  Vertical cylinder enables to install in small space
- **High rate of operation**
  Simple structure, easy to operate, very low failure rate, easy to repair
- **Preventing formation of clinker**
  Water cooling type sedimentary station to prevent generating and sticking of clinker for smooth discharge
- **High thermal efficiency, low CO rate by stable combustion**
  Stable combustion by sedimentation direct fire combustion which make calories of waste even

Hybrid Type (Method of acidic gas removal)

**When the waste contains a large amount of sulfur and chlorine compounds,
The following noxious gas treatment facilities are required.**

Principle & Key Features

▷ **Noxious gas removal equipment**
The dry process reactor or semi dry process reactor and bag filter that has highly removal efficiency is adopted and perfectly removal acidic gas.

▷ **Noxious Acidic Gas Removal Method**

① **Dry process reactor**
- **Acid gas is neutralized by solid-gas reaction with lime spraying in stack. Reacted formations are Accumulated with dust in the latter part bag filter**
- **Efficiency → : about 50~70%, SOx : about 30~60%**

② **Semi dry process reactor :**
- **Acid gas is neutralized by reaction of liquid-gas at upper part and solid-gas at lower part in reactor after spraying lime slurry in reactor. Reacted matter Is accumulated with dust in the latter bag filter.**
- **Efficiency → HCl : about 90%, SOx : about 70%**

③ **Particles of Dust Removal (Bag Filter)**
- **This system is to collect fry dusts produced during combustion and particle matters in chemical works of toxic gas & dioxin removal.**

Process

Incinerator → Waste Heat boiler → Dry Reactor → Bag filter → ID FAN → Stack

Incinerator → Waste Heat boiler → Semi Dry Reactor → Dry Reactor → Bag filter → ID FAN → Stack

Reference