



Since 1967
MICROTEKNIK



MEDICAL WASTE INCINERATOR

(COVID-19)

JKA-230BM

MICROTEKNIK

Certified with ISO, FDA, CE, GMP and Patented Product



ABOUT MICROTEKNIK

We MICROTEKNIK, leading manufacturer and exporters in the field of scientific laboratory equipments, Engineering educational equipments, hospital equipments, Waste management and Incinerators.

Rich experience of over 5 decades in manufacturing with continuous improvements in producing world class quality products, supported by our in house R & D and users /customers feedback in achieving TEKNIK Brand as Import Substitution.

We owe the responsibility not only to supply quality products on time but till the successful installation-Commissioning and training at users end.

Highly competitive price of world class products with complimentary Periodic check up, spare part management and unsolicited service by TEKNIK made us preferred Supply Partners in National & International Market.

With Warm Regards.

VIKAS JAIN
CEO.

- ✓ **MICROTEKNIK” that has been in the business for past 53 years .**
- ✓ Our machines and equipments are of global standard and as per the norms of the central pollution control board and also as per solid waste management rule-2016.
- ✓ We are certified with ISO, FDA, CE, SSI, MSME, FIEO, FISME, NSIC, GMP and Drug License.

OUR SKILLS

- ✓ Premium Quality.
- ✓ Timely Delivery.
- ✓ Competitive Prices.
- ✓ Highly Efficient Instruments.
- ✓ Sophisticated Infrastructure.
- ✓ Service Backup .
- ✓ Highly skilled engineering.

CERTIFICATES





MEDICAL WASTE INCINERATOR (COVID-19)



JKA-230BM

MEDICAL WASTE INCINERATOR is one of the treatment and safe disposal of the bio-medical waste generated from the hospitals, veterinary facilities, medical research facilities etc. These wastes include both infectious medical wastes as well as non-infectious, general housekeeping wastes.

As the Corona virus disease 2019 (COVID-19) pandemic continues, clinics and hospitals may need to consider on-site disposal for the infectious medical waste. The medical waste incinerator that has been effectively used to dispose of hazardous waste during viral outbreaks like Ebola and corona virus opens in a new window. Medical waste incinerator reaches temperatures up to 1400⁰C and is able to destroy health care waste for laboratories, small clinics, and hospitals treating patients of the Novel Corona virus (COVID-19) such as linens, sharps, gauze, gowns, shoes, gloves, rags, wipes, masks, face shield, goggles, coverall suits and all other related disposables.

Medical incinerator is equipped with necessary air pollution control devices (APCD) for removal of pollutants from flue gases to achieve desired level. The flue gases are cleaned for removal of pollutants and gaseous compounds by passing through various air pollution control devices (APCD) before releasing them into the atmosphere through stacks filter are provided to make incinerator complete pollution free, smoke, colourless Treated, odorless treated.



A Symbol of Quality

OPERATIONAL CRITERIA

The medical waste incinerator is designed for primary and secondary combustion systems. Total Organic carbon content in the slag/bottom ash is less than 1% or their loss on ignition is less than 3% of the dry weight as prescribed. The double chamber incinerator is preferably being designed on “controlled-air” incineration principle, as particulate matter emission is low in such incinerator. Air supply in the primary and secondary chamber may be regulated between 30%-80% and 170%-120% of stiochiometric requirement respectively. In primary chamber, primary air is admitted near. Suitable flow measurement device is provided on the primary and secondary air ducting. The combustion air is supplied through a separate forced draft fan after accounting for the air supplied through burners. The primary chamber is to avoid leakage of gaseous emissions from the chamber and for safety reasons.

The secondary chamber is properly designed so as to facilitate a minimum of two seconds residence time to ensure combustion of the gas flow, unburnt material such as volatiles, smoke and soot. For the estimation of residence time in the secondary chamber its volume calculated starting from the secondary burner up to the thermocouple. Incinerator walls are protected with insulated fire bricks/refractory system. The refractory lining of the chamber is strong enough to sustain thermal shocks i.e. minimum temperature **850°C** in the primary chamber and up to **1450°C** in the secondary chamber. The refractory & insulation brick is have suitable thickness of 230 mm.

The incinerator combustion chamber is designed for easy maintenance of all internal parts including refractory and isolation.

The incinerator is confirming the following operation & emission standard as per schedule-II of the bio-medical waste management rules 2016.

PARAMETERS	EMISSION STANDARD
Particulates	50 mg/Nm ³
HCL	50 mg/Nm ³
SO ₂	200 mg/Nm ³
CO	50-100 mg/Nm ³
Total Organic Carbon	20 mg/Nm ³
HF	4 mg/Nm ³
NO _x (NO & NO ₂ expressed as NO ₂)	400 mg/Nm ³
Total Dioxin & Furans	0.1 ng TEQ/ Nm ³
Cd+Th+ their compounds	0.05 mg/Nm ³
Hg & its compounds	0.05 mg/Nm ³
Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V+ their compounds	0.5 mg/Nm ³

CONSTRUCTION

PRIMARY CHAMBER

-) Fully insulated internal refractory lining constructed from high grade refractory brick ensuring a self supporting interlocked arrangement.
-) Manually operated access lid.
-) Waste ignition burner temperature controlled on-off complete with internal air fans.
-) A pre-cast blocks impact zone that protects the refractory lining when loading.

SECONDARY CHAMBER

-) Fully insulated internal refractory lining, constructed from high grade low thermal mass insulation.
-) Secondary chamber burnout temperature through burner controlled on-off complete with internal air fans.
-) Integrated combustion burner air fans with automatically controlled distribution to their designated area.
-) Temperature sensor mounting point of the chamber ensuring the chamber reaches the necessary temperature.

FUEL OPTIONS

-) Electric.
-) Diesel.
-) LPG/CNG.

BURNERS

Fully automatic high-efficiency burners with electronic ignition, flame recognition and combustion control devices fitted.

ASH REMOVAL

Easy and safe manual ash removal from the primary chamber.

INCINERATOR-MOVEABLE (OPTIONAL)

-) Whole unit mounted on wheeled cart.
-) Easy to work at different site.
-) Batteries & Genset available with mobile incinerator as per requirement.
-) No need to transfer all waste at one place from various area, Machine will go to incinerate the waste with help of tractor or any other vehicle at site.

FACILITY INCLUDING

-) Primary Chamber.
-) Secondary Chamber.
-) Combustion control.
-) Combustion requirements.
-) Air pollution control devices.
-) Anticipated air emission levels.
-) Digital Control Panel.
-) Noise control.
-) Ash management.

FEATURES

-) Primary Chamber with Fully Automatic Burner Assembly (With Fire Proof Bricks Lining).
-) Secondary Chamber with Automatic Burner (With Fire Proof Bricks Lining).
-) Burners of the incinerators are CE certified high efficiency. They are fully automatic and well equipped with safety devices like Flame Failure Protection Device etc.
-) Venture Scrubber with Shower for wet scrubbing.
-) Chimney with Ladder, Platform & Sampling point.
-) ID Fan.
-) Duct Line with Inside Lining.
-) Heavy Construction for Long Life.
-) Incineration as per Emission Standard.
-) Combustion efficiency of 99%.

GENERAL DESCRIPTION

○ Use For	All Type Of Medical Waste(Covid-19)
○ Mode of Heating	Diesel/Electrical/LPG/CNG
○ Mode of Feeding	Manual/Conveyor Belt (Optional)
○ Ash Removal	Manual
○ Equipment	Static/Mobile
○ Electrical Supply	240V, 1 phase 440V, 3 phase
○ Burner	Automatic
○ Material of construction	M.S. 5MM – 8MM
○ Ignition	Automatic.
○ Control panel	Digital.
○ Inside	High alumina refractory brick IS-8-1994 line with insulation brick IS 2042-2006

CHARACTERISTICS

- Machine Type: Floor-standing/ Moveable.
- Capacity: 50/100/250/500 Kg/Hr.
- Temperature range: Min. 850°C - Max. 1450°C
- Power Requirement: LPG, Diesel, Electrical
- Temperature monitoring : Digital Display
- Average ash residue (%): up to 1%.
- Design and prepare the all type of medical waste (covid-19) with chamber (Primary and Secondary chambers) for complete combustion as per Pollution control board norms.
- Filtration of smoke before releasing it in atmosphere.

AIR POLLUTION CONTROL DEVICE

- The flue gases from the secondary chamber are usually vented to the atmosphere through a refractory-lined flue. They are at a very high temperature, and interest in recovering this thermal energy e.g. for space heating of the funeral chapel, or other facilities or for distribution into local district heating networks has arisen in recent years. Such heat recovery efforts have been viewed in both a positive and negative light by the public.
- In addition, filtration systems (bag houses) are being applied to crematories in many countries. Activated carbon adsorption is being considered for mercury abatement (as a result of dental amalgam). Much of this technology is borrowed from the waste incineration industry on a scaled-down basis. With the rise in the use of cremation in Western nations where amalgam has been used liberally in dental restorations, mercury has been a growing concern.

VENTURI SCRUBBER

- A venturi scrubber is designed to effectively use the energy from the inlet gas stream to atomize the liquid being used to scrub the gas stream. This type of technology is a part of the group of air pollution controls collectively referred to as wet scrubbers.

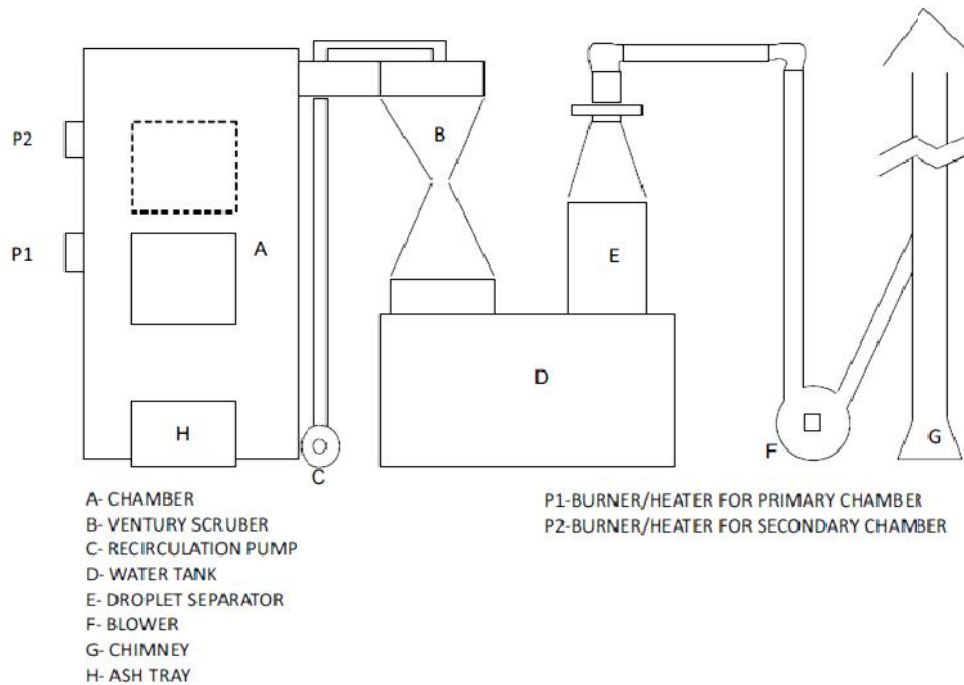
I. D. FAN

- **Induced draft fans** or **ID fans** are used in systems such as steam boilers and thermal oil heaters to draw out and remove flue gases from combustion chambers, by creating a vacuum of negative air pressure.

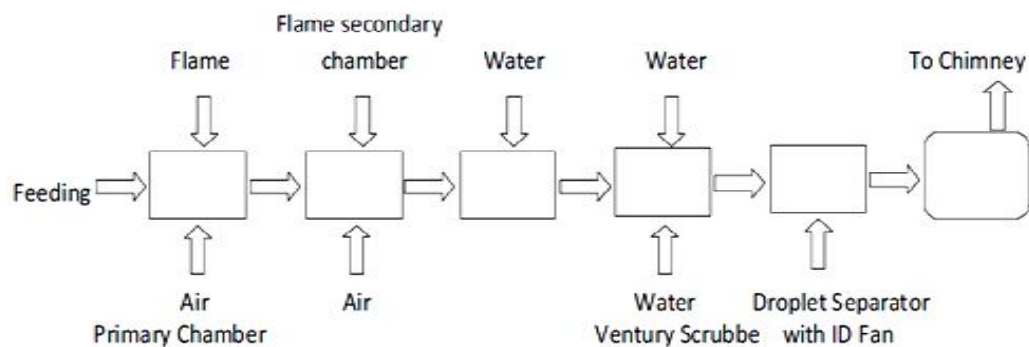
CHIMNEY

- A structure, usually vertical, containing a passage or flue by which the smoke, gases, etc., of a fire or furnace are carried off and by means of which a draft is created. the part of such a structure that rises above a roof.

OPERATIONAL PRINCIPAL



2D DESIGN OF MACHINE



FLOW DIAGRAM



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