



MACROTEC
Waste · Energy · Filtration



INDUSTRY SOLUTIONS HEALTHCARE WASTE



View Online

Over 40 years experience in engineering and monitoring of process equipment. We specialise in Waste, Energy, and Filtration.



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🌐 macrotecengineering.com

📍 KwaZulu Natal, South Africa

MACROTEC



We place a strong emphasis on developing and providing the products and services that clients require, providing the best technological solution, and providing quality products and services.

We're a family run firm focussing on the Engineering and Monitoring of Process Equipment, especially in the Waste, Energy, and Filtration fields. We provide the complete vertical solution, including engineering and design services, product development, manufacturing, installation, equipment operation, and maintenance.

CERTIFICATION

ISO 9001:2015 Quality Management Systems
ISO 14001:2015 Environmental Management Systems
ISO 45001:2018 Occupational Health & Safety Management



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TYPES OF HEALTHCARE WASTE OUR INCINERATORS CAN TREAT

- **Infectious waste:** waste contaminated with blood and other bodily fluids (e.g. from discarded diagnostic samples), cultures and stocks of infectious agents from laboratory work (e.g. waste from autopsies and infected animals from laboratories), or waste from patients with infections (e.g. swabs, bandages and disposable medical devices).
- **Pathological waste:** human tissues, organs or fluids, body parts and surgical specimens.
- **Sharps waste:** syringes, needles, disposable scalpels, and blades, etc.
- **Pharmaceutical waste:** expired, unused, and contaminated drugs and vaccines.
- **Chemical wastes:** for example, solvents and reagents used for laboratory preparations, disinfectants, sterilants, and heavy metals contained in medical devices (e.g. mercury in broken thermometers) and batteries.
- **Low level radioactive waste** such as products contaminated by radionuclides including radioactive diagnostic material or radiotherapeutic materials.
- **Cytotoxic waste:** waste containing substances with genotoxic properties (i.e. highly hazardous substances that are, mutagenic, teratogenic or carcinogenic), such as cytotoxic drugs used in cancer treatment and their metabolites.
- **Non-hazardous or general waste:** waste that does not pose any particular biological, chemical, radioactive or physical hazard.



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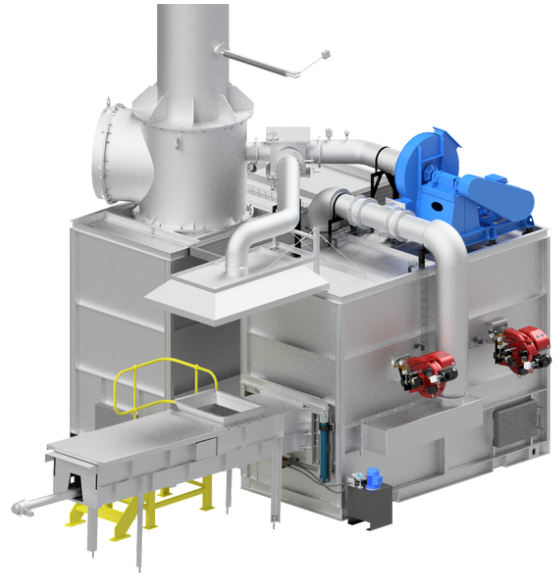


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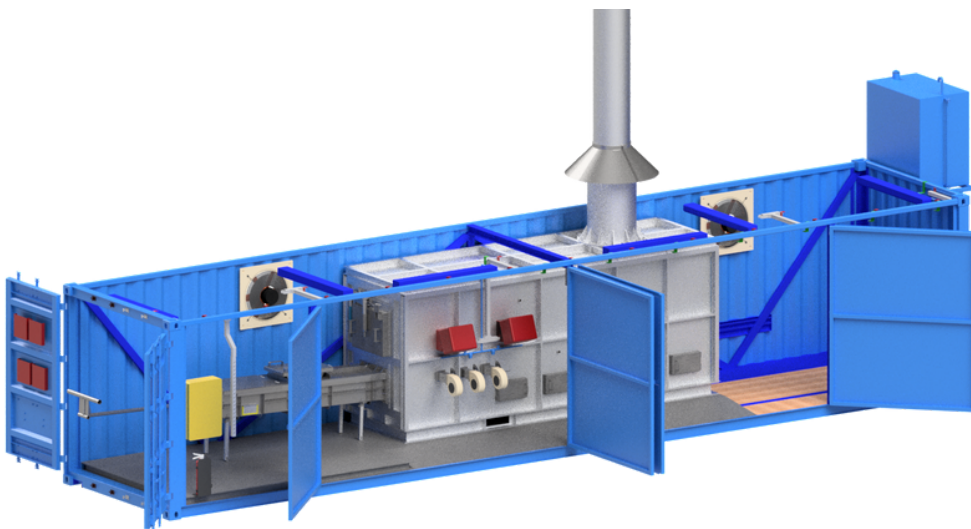
INCINERATORS

We design and manufacture a wide range of incinerators for various applications and conditions. Hazardous and other speciality waste types have always been a key focus area for us, along with the design of custom solutions.

Our incinerators have been designed to reduce every possible threat to the environment, while providing a reliable and cost-effective solution. We make use of advanced designs in our combustion plant, which regulates the combustion rate, temperature in the different chambers, turbulence, gas velocities and supply of oxygen.



All our incinerators are optimized to minimise emissions, with large combustion and settling chambers, high velocity combustion air, and high output burners. We also offer Incinerators with Filtration for units that must comply to EU emission regulations. Our Incinerators are two chamber units, with auxiliary burners, combustion air fans, manual or auto feeder, and a stack. Optional items include: Manual and Auto feeders, Containerised Incinerators, Remote Monitoring and Support.



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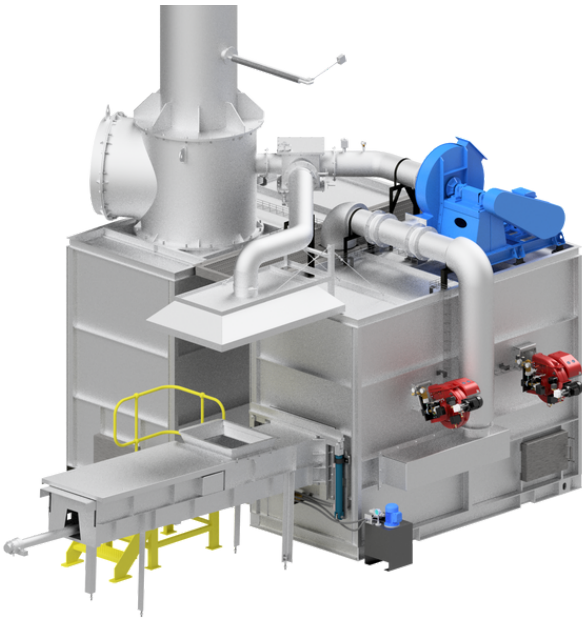


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OUR INCINERATORS ARE AVAILABLE IN THREE DIFFERENT TYPES:

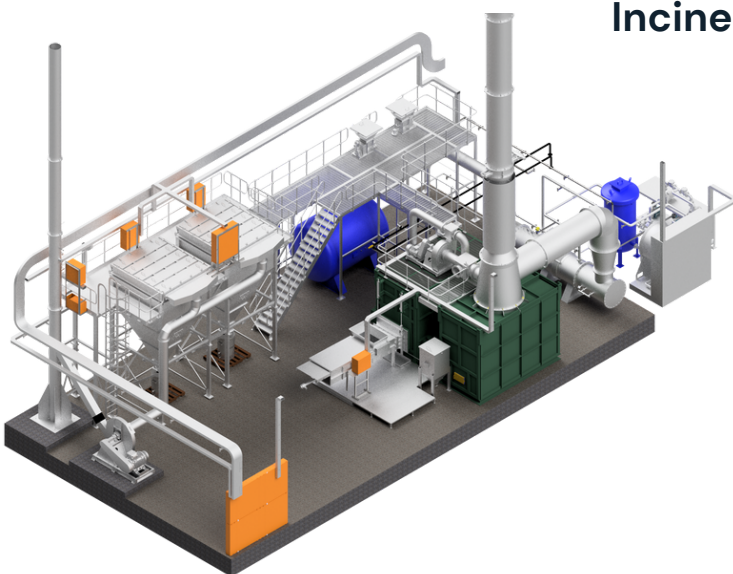


Standalone Incinerators

These are our standard incinerators that are used all over the world. These incinerators offer reliability, easy maintenance, low emissions, various feeding systems, and can handle multiple waste types.

Biomass Incinerator

These Incinerators use biomass to heat up and maintain the required temperature, with no diesel or gas required as an auxiliary fuel. Also available in an option that does not require electricity.



Incinerators with Scrubbing and Filtration

Our solution for ultra-low emissions, these incinerators are integrated with dry gas scrubbing, flue gas filtration, and heat recovery. These plants comply with South African and EU emission regulations.



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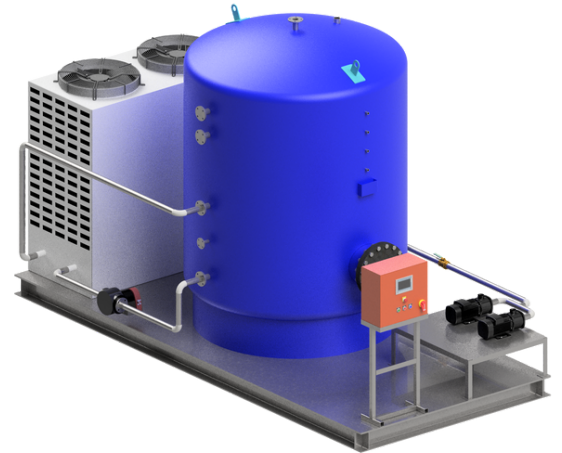
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HOT WATER SYSTEMS

Our modular hot water systems are skid based, quick to install, with multiple heating options, and easily expandable to add more heating or storage capacity.

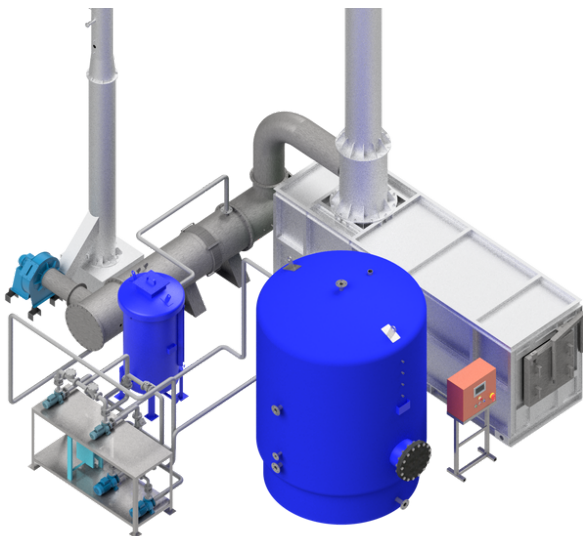
Heating can be done via electrical elements, heat pumps, or waste heat from chillers, compressors, or an incinerator. Multiple heating sources can be used for redundancy.

Our hot water systems are completely pre-installed on a skid and includes the control system as per client requirements. A monitoring system can be optionally added.



HEAT RECOVERY

Our heat recovery systems provide cost effective methods to provide heating in remote or off the grid locations.



Waste heat recovery options include:

- Incinerators
- Chillers
- Compressors

To add redundancy to the system, a conventional heating source can also be added.



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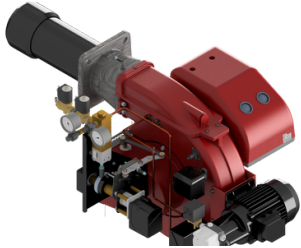
EQUIPMENT & PLANTROOM MONITORING

Our IIoT (industrial Internet of Things) platform allows you to easily monitor equipment and sensor data.

Our sensors allow Performance & Condition Monitoring of fans, motors, pumps, cooling and heating systems, and compressors. This allows you to optimise operation, reduce costs, and plan maintenance better to prevent unplanned downtime.



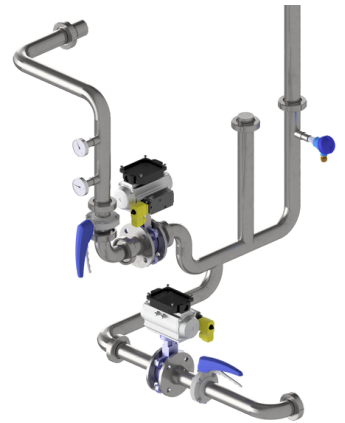
BURNERS



We supply, install, and maintain a wide range Diesel, HFO, LPG, Natural Gas Burners, Waste Oil, and Dual Fuel burners and burner spares, along with Burner Management Systems.

INSTRUMENTATION

We supply, install, and provide complete solution engineering for Process and Condition monitoring systems. This includes a wide range of Process Sensors, Position Sensors, Flue Gas Sensors, Condition Monitoring instrumentation, and Industrial Gateways.



MAINTENANCE & REPAIRS



With our site services team we offer complete maintenance solutions, including mechanical, electrical, electromechanical, and refractory work.



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