



INNOVATION IN GASIFICATION

Pathological • Deadstock • Specified Risk Material • BSE • MSW • Medical Waste • Pharmaceutical • Contaminated Food

SaniFlame is a unique gasification system designed by SaniFlame Inc. which corrects current shortcomings in the industry. It utilizes removable cars and an innovative afterburner design to produce a highly efficient and convenient way to safely dispose of the multitude of wastes currently challenging communities worldwide.

Unique Features

- Removable car-bottom hearth design
- Option to use additional cars
- Leak-proof shell construction
- Modular corrugated hearth design
- Innovative afterburner design
- Continuous oxygen monitoring
- Precise afterburner air and temperature control
- Industrial grade gas burners and air blower
- Regenerative heat recovery

Resulting Benefits

- Greater convenience, safety, ash cleanout
- Less downtime, increased productivity & convenience
- More hygienic and safer waste material handling
- Improved heating and simplified maintenance
- Higher efficiency with a smaller footprint
- Lower emissions, full code compliance
- Lower operating cost
- Highly durable and reliable combustion equipment
- Increased efficiency, production of hot water or steam

The unique feature of the SaniFlame gasification system is the car bottom design which allows the hearth of the Primary Chamber to be completely removed.

This allows the car to be loaded and ash to be cleaned out without the need for operators to work inside the chamber making their job easier, safer, cleaner and faster. This is especially important when dealing with contaminated waste streams such as SRM (Specified Risk Material), Medical or MSW (Municipal Solid Waste).

Utilizing a second car increases the production rate. The SaniFlame does not need to be cooled and cleaned between loads, as the preloaded second car can be quickly hot-swapped. This eliminates the downtime between burn cycles.

Developed using the latest Computational Fluid Dynamics (CFD) software, the patent pending afterburner design has revolutionized the way incinerator emissions are processed. The distinctive afterburner design provides a longer residence time in a smaller space.



Animal waste unit shown.
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The SaniFlame Advantage

Most commercial incineration systems have not evolved significantly in decades and with the looming global waste disposal crisis they suffer from a number of drawbacks:

- Inefficient batch process
- Outdated hearth design
- Inefficient afterburner design
- Poor control over air and fuel
- Lack of heat recovery

The SaniFlame overcomes these industry challenges with the following **features**:

- **Removable cars**
- **Innovative hearth design to prevent leakage**
- **Innovative afterburner design**
- **Continuous oxygen monitoring**
- **Regenerative heat recovery**

Removable Cars

The SaniFlame system improves the production rate by replacing the fixed hearth with removable cars to achieve a semi-continuous process. Caster wheels allow the cars to be loaded and ash cleaned out in the most convenient location. To save time, a load can be prepared on one car while the other is still in the Primary Chamber. The cooling cycles are shorter because the cars can be hot-swapped. This reduces the time and fuel required to bring the system back up to the operating temperatures.

Innovative Hearth Design

The car refractory features a floor design which allows hot gases to flow under the load to improve the combustion process. The modular hearth minimizes refractory cracking due to thermal cycling and simplifies repairs. Maintenance downtime is greatly reduced because routine repairs to the hearth can be completed on one car while the other continues to be productive.

Innovative Afterburner Design

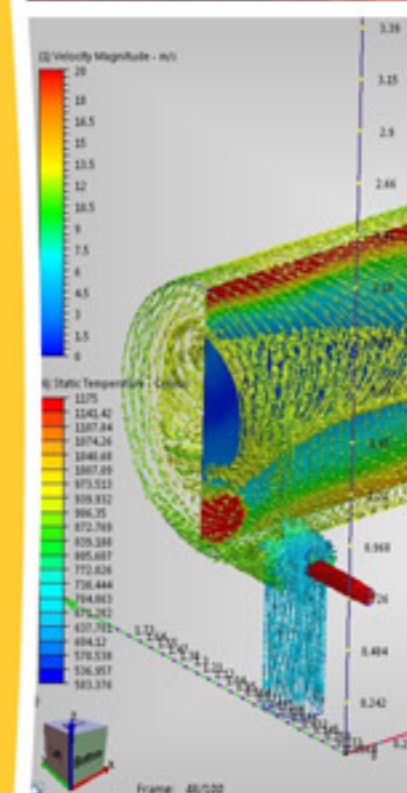
The innovative afterburner design was developed using Computerized Fluid Dynamics simulations, which allow the equipment to be meticulously tested and studied in a virtual environment to optimize its design and performance prior to construction. The result is a smaller, more efficient afterburner, with reduced fuel consumption and a longer residence time to ensure lower emissions.

Continuous Oxygen Monitoring

In addition to the standard emission monitoring equipment required by environmental authorities, the SaniFlame system continuously senses the exhaust gases to provide real time oxygen monitoring.

Regenerative Heat Recovery

Proprietary heat recovery system has been designed to lower operating and maintenance costs, reduce risk of dioxin and furan reformation, and allow for hot water or steam generation.



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