MAGS™
Enabling the Recovery of Energy from Waste

Micro Auto Gasification System
MAGS™ V8

MAGS is fueled by a variety of combustible material

Municipal/Domestic Solid Waste • Biomedical Waste • Pharmaceuticals • Illicit Drugs • Hazardous Waste
Sewage Sludge • Contaminated Packaging • Oily Sludge • Solvents • Plastic Waste • Confidential Waste

FEATURES

• 120 kW energy generation (hot water or space heating)
• Integrated gas cleaning and energy recovery
• Quench and scrubber eliminate dioxin/furan formation and the release of hazardous pollutants, including particulates and acid gases
• Automated biochar removal system for simplified maintenance
• Allows for 24-hour operation
• Simplified waste loading operation
• Flexible configuration or containerization
• Fully automated and available for remote monitoring
• Sequesters carbon from waste to reduce CO₂ emissions
TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Weight</td>
<td>5,400 kg (11,905 lbs)</td>
</tr>
<tr>
<td>Footprint (default)</td>
<td>2.5m x 3.5m (8.2 ft x 11.4 ft)</td>
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<tr>
<td>Height</td>
<td>2.1 m (6.9 ft)</td>
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OPERATING CONDITIONS

- Nominal Solid Waste Throughput: The throughput depends on the bulk density of the waste being treated. Waste loading results in the treatment of 17 kg/hr (37 lbs./hr) up to 50 kg/hr (110 lbs./hr) depending on the waste composition. See details in MAGS operating specifications sheet.
- Sludge Oil Throughput: 15-20 L/hr (4 – 5.25 USGal/hr)
- Operating Temperature in Gasifier: 600°C (1112°F)
- Operating Temperature in Combustion Chamber: 1100°C (2012°F)
- Types of Waste Streams: Although MAGS can accept a variety of waste mixtures, it is ideally suited for the treatment of combustible wastes, including but not limited to: paper/cardboard, plastics, food, wood, rags, oils, solvents, sludge, etc.

UTILITIES / CONSUMABLES

- Electrical Consumption: 22 kW (400V/50Hz; 440V/60Hz; 460V/60Hz)
- Type of Fuel: Light oil #1 or #2 (diesel), NATO F76 fuel, natural gas, other fuels also possible.
- Fuel Consumption: 11.5 L/hr (3 gal/hr) for heat-up, which takes a maximum of 1.5 hours. Some additional fuel may be required, depending on waste composition and waste loading frequency.
- Caustic: 60 mL/kg solid waste (0.9 fl.oz/lb) NaOH, caustic soda 10% solution.

EMISSIONS

- Gaseous: Total flow approximately 200 SCFM (5.6m³/min) at less than 65°C (149°F). MAGS will comply with all applicable air emission regulations.
- Condensed Water: About 3 – 8.5 L/hr (0.8 – 2.2 gal/hr) depending on application and waste composition.
- Bio-char: 95% solid waste volume reduction
- Audible: Less than 75 dBA within 5 feet
- Surface Temperatures: Less than 45°C (113°F)

ENERGY RECOVERY

- Energy Recovery Output: Between 100 kW – 130 kW depending on application and waste composition

*MAGS* hot and cold skids can be reconfigured or separated according to spatial limitations. Systems are available in a single 20 ft ISO container or Tricons for outdoor installation, easy mobility and rapid deployment.

*Specifications are based on measured values for an average waste stream and may vary according to waste input.*